

**Canadian Institutes of Health
Research**

2006-2007

Departmental Performance Report





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SECTION I – OVERVIEW

Minister's Message

I am very pleased to present the 2006-2007 Departmental Performance Report for the Canadian Institutes of Health Research (CIHR).



In the past year, Canada's New Government has articulated a vision and strategy for how Canada can succeed in the modern global economy. In such an economy, where the most successful nations are those that combine the best people, skills, new ideas and advanced technologies to create a competitive edge, Canada can be a true leader.

As Minister of Health, I feel that CIHR is an important partner in this process. CIHR is helping maximize our impact in three key areas: developing new knowledge; commercializing research; and helping create a highly educated workforce. Due to the importance of CIHR's impact in these areas, CIHR's budget has increased from \$390 million in

2000-2001 to \$863.4 million in 2006-2007.

From the outset, CIHR has demonstrated its commitment to supporting world-class research. All CIHR funding applications undergo peer review to ensure their excellence. Almost daily, one can see evidence of the results and influence of this research. For example, in the past year CIHR researchers determined that so-called cancer stem cells are the real ringleaders in this disease but, unfortunately, the cells are not being caught using current anti-cancer therapies. This new knowledge provides a powerful platform on which researchers can base future research efforts, to ultimately build more effective treatments for cancer.

CIHR is playing an important role in helping align research with the needs of business to make a real impact in the market. For example, the breakthrough Proof of Principle (PoP) program tests and validates novel technologies prior to launching new ventures. The PoP program improves the commercial transfer of knowledge and technology resulting from academic health research for the benefit of Canadians.

Finally, CIHR continues to contribute heavily to building Canada's people advantage. CIHR training grants and programs are cultivating the kind of talent Canada needs to generate top-quality research and help our country thrive in the knowledge-based economy. CIHR also has invested in internships and scholarships such as those that, under a Canada-China agreement, allow researchers to work and study at labs in each other's countries.

Canada and Canadians can look forward to continued benefits resulting from CIHR's far-sighted investments in health research.

Tony Clement
Minister of Health

President's Message

A revolution is taking place in health research. Emerging areas of science are offering exciting new opportunities for improving health. In the coming decades, key drivers – such as insights from biology that are leading to the new diagnostics and therapies; technologies that have the power to link our bodies, electronic health records and hospitals together; and regenerative medicine, which is leading to changes in how we repair or replace defective or worn-out body parts – are going to transform our approach to human health and health-care delivery.

The Canadian Institutes of Health Research (CIHR) was created within the context of this rapidly changing landscape. Today, we stand poised to help Canada take its place at the forefront of global productivity and achieve health and prosperity for our nation.

We are doing this in several ways: We are supporting the development of what the Government of Canada has called, in Advantage Canada, the best-educated, most-skilled and most flexible workforce in the world. Since 2000, CIHR has doubled the number of graduate students we support, investing more than \$100M in their career development.

We are targeting our investments to areas where Canada has the potential to be a world leader, such as clinical research, human genetics, health services and population and public health research, and to areas of government and Canadian priority, such as obesity and autism.

We are leveraging investment on large-scale national scientific and commercialization projects. In 2006-2007, our partners contributed more than \$90M¹ toward joint projects in health research. Industry-partnered programs leverage public sector funding at a rate of 2:1 or more. We are enhancing the commercialization of Canadian discoveries by facilitating linkages between universities and the private sector.

And, we are ensuring excellence in research by only funding the very best grant applications, as determined by peer review.

Canada is receiving worldwide recognition for CIHR's outcomes-driven, inclusive and strategic approach. A prestigious International Review Panel applauded CIHR for what it has accomplished to date, noting that we are setting an example for the world. And in the United Kingdom, the Cooksey Review, which dealt with support for health research in the UK, singled out CIHR and Canada as a model to follow.

Our success is due, in no small measure, to the dedicated and talented staff of CIHR, and the contributions of CIHR's Governing Council, our 13 Scientific Directors and Institute Advisory Boards, our volunteers on peer-review committees, and hundreds of partners from the public, non-governmental and private sectors. And, of course, our work would not be possible without the continuing support of Parliamentarians. I would like to take this opportunity to thank them for their contributions and support, past, present and future.



Dr. Alan Bernstein, O.C., FRSC
President, Canadian Institutes of Health Research

¹ Currently, these figures represent only partner funds being administered by CIHR. As in-kind partner contributions can not accurately be validated and that partner funds not administered by CIHR are not included, partner contributions are likely understated.

Management Representation Statement

I submit for tabling in Parliament, the 2006-2007 Departmental Performance Report for the Canadian Institutes of Health Research.

This document has been prepared based on the reporting principles contained in the *Guide for the Preparation of Part III of the 2006-2007 Estimates: Reports on Plans and Priorities and Departmental Performance Reports*:

- It adheres to the specific reporting requirements outlined in the Treasury Board Secretariat guidance;
- It is based on the department's approved Strategic Outcome(s) and Program Activity Architecture that were approved by the Treasury Board;
- It presents consistent, comprehensive, balanced and reliable information;
- It provides a basis of accountability for the results achieved with the resources and authorities entrusted to it; and
- It reports finances based on approved numbers from the Estimates and the Public Accounts of Canada.



Signed: Dr. Alan Bernstein, O.C., FRSC

Title: President, Canadian Institutes of Health Research

Summary Information

1. Raison d'être

The mandate of CIHR is to excel, according to internationally accepted standards of scientific excellence, in the creation of new knowledge and its translation into improved health for Canadians, more effective health services and products and a strengthened Canadian health-care system (Bill C-13, April 13, 2000).

To accomplish this, CIHR provides a range of programs that are designed to achieve results in three strategic outcome areas in accordance with CIHR's mandate and strategic directions: 1) outstanding research; 2) outstanding researchers in innovative environments; and 3) transforming health research into action. CIHR supports more than 11,000 health researchers and trainees in 260 universities, teaching hospitals, research centres and government laboratories across the country who conduct health research in the following areas: biomedical; clinical; health systems and services; and the societal and cultural dimensions of health and environmental influences on health. Together, these activities will help to position Canada as a world leader in the generation and use of health knowledge for the betterment of the health of Canadians and people around the world.

Financial Resources (in millions)

Planned Spending	Total Authorities	Actual Spending
\$862.8	\$863.4	\$843.3

Human Resources²

Planned	Actual	Difference
390	347	-43

2. Summary of Performance in Relation to Strategic Outcomes, Priorities and Commitments

In its 2006-2007 Report on Plans and Priorities (RPP), CIHR committed to the priorities and related investments described in the table below. This table also provides a summary "report card" on how CIHR performed relative to expected results and priorities. Finally, it provides a comparison of planned and actual spending in each strategic outcome.

² All references to human resources are expressed in full-time equivalents (FTEs), unless otherwise noted.

Status on Performance			2006-2007	
			Planned Spending	Actual Spending
Strategic Outcome 1.0: Outstanding Research - <i>Best health research supported to create health knowledge responding to opportunities and priorities.</i>				
Priority #1: Research	Program Activity – Expected Result	Performance Status	Planned Spending	Actual Spending
Advance health knowledge, through excellent and ethical research, across disciplines, sectors and geography (Ongoing)	1.1 Fund health research – Effective and efficient funding programs that enable ethical health research, responding to research opportunities and priorities.	Met Expectations	\$469.4 M	\$499.5 M

Strategic Outcome 2.0: Outstanding Researchers in Innovative Environments - <i>Strong health research community able to undertake outstanding research.</i>				
Priority #2: Researchers	Program Activity – Expected Result	Performance Status	Planned Spending	Actual Spending
Develop and sustain Canada's health researchers in vibrant, innovative and stable research environments. (Ongoing)	2.1 Fund health researchers and trainees – Effective and efficient funding programs that ensure a supply of highly qualified health researchers and trainees are available to conduct outstanding research.	Met Expectations	\$217.7 M	\$190.4 M

	2.2. Fund research resources, collaboration and other grants to strengthen the health research community – Effective and efficient partnerships and funding programs that lead to a dynamic research environment and enable outstanding research.	Met Expectations	\$73.2 M	\$66.2 M
	2.3 Develop and support strong health research community through national and international alliances and priority-setting – National and international health research agendas as well as strong alliances and partnerships are formulated and implemented.	Met Expectations	\$28.2 M	\$23.3 M
	2.4 Inform research, clinical practice and public policy on ethical, legal and social issues (ELSI) related to health and health research – Uptake and application of ethics knowledge as an integral part of decision-making in health practice, research and policy.	Met Expectations	\$6.3 M	\$2.2 M

Strategic Outcome 3.0: Transforming Health Research into Action - *Health research adopted into practice, programs and policies for improved health of Canadians and a productive health system; stimulation of economic development through discovery and innovation.*

Priority #3: Knowledge Translation	Program Activity – Expected Result	Performance Status	Planned Spending	Actual Spending
Catalyze health innovation in order to strengthen the health system and contribute to the growth of Canada's economy. (Ongoing)	3.1 Support activities on knowledge translation, exchange, use and strategies to strengthen the health system – Effective dissemination, exchange, synthesis and application of research results take place to create new knowledge, strengthen Canadian capacity and networks and, together with our partners, enable effective research and application of health research results.	Met Expectations	\$40.7 M	\$35.0 M
	3.2. Support national efforts to capture the economic value for Canada of health research advances made at Canadian institutions – Mobilizing research to improve health services and products, strengthen the health-care system and economy.	Met Expectations	\$27.3 M	\$26.7 M

CIHR's Operating Environment

1. Approach to Health Research

CIHR is the Government of Canada's agency for funding and promoting health research. CIHR's vision is to position Canada as a world leader in the creation and use of new knowledge through health research that benefits the health of Canadians and the global community. CIHR's strategic plan, *Blueprint*, articulates the ways in which the organization implements this vision.³

The Unique Virtual Institute Model

CIHR is structured around 13 virtual, geographically distributed Institutes that support research and knowledge translation (KT) in four related areas: 1) biomedical, 2) clinical, 3) health systems and services, and 4) the societal, environmental and cultural influences on health. Each Institute forms a health research network that links researchers, health professionals and policy makers from voluntary health organizations, provincial/territorial government agencies, international research organizations and industry and consumer groups. Detailed organizational structure and governance information are provided in *Section III – Supplementary Information*.

A Problem-based

Multidisciplinary Approach

Through its 13 Institutes, CIHR is creating new opportunities for Canadian health researchers to produce results that matter to Canadians and the rest of the world. CIHR uses a problem-based, collaborative and multidisciplinary approach to health research and its application. While the majority of its funded research is investigator-driven, research funding is also directed towards specific strategic initiatives that respond to health challenges that are of high priority to Canadians.

CIHR Institutes

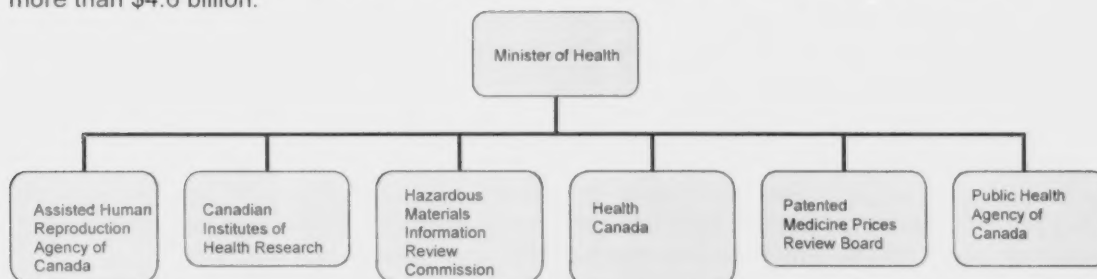
Aboriginal Peoples' Health (IAPH)
Aging (IA)
Cancer Research (ICR)
Circulatory and Respiratory Health (ICRH)
Gender and Health (IGH)
Genetics (IG)
Health Services and Policy Research (IHSPR)
Human Development, Child and Youth Health (IHDCYH)
Infection and Immunity (II)
Musculoskeletal Health and Arthritis (IMHA)
Neurosciences, Mental Health and Addiction (INMHA)
Nutrition, Metabolism and Diabetes (INMD)
Population and Public Health (IPPH)

A Key Role in the Health Portfolio

The Minister of Health, through the work of the Health Portfolio, is responsible for maintaining and improving the health of Canadians. The Portfolio consists of the newly formed Assisted Human Reproduction Agency of Canada, the Canadian Institutes of Health Research (CIHR), Health Canada, the Hazardous Materials Information Review Commission, the Patented Medicine Prices Review Board and the Public Health Agency of Canada. Each member of the Portfolio prepares its own *Report on Plans and Priorities* and *Departmental Performance Report*.

³ CIHR's *Blueprint for Health Research and Innovation* can be found at: <http://www.cihr-irsc.gc.ca/e/20266.html>.

The Health Portfolio consists of approximately 11,700 employees and an annual budget of more than \$4.6 billion.



2. CIHR's Core Business

Funding Research and Knowledge Translation

CIHR activities include the funding, coordination and promotion of health research and KT through grants and awards competitions, and strategic initiatives. CIHR also participates with other federal agencies in a number of programs, including the Networks of Centres of Excellence program, Canada Research Chairs (CRC) and Canada Graduate Scholarships (CGS).

CIHR invests a significant portion of its budget in "open" competitions, enabling individual researchers or groups of investigators to identify research areas that they consider to be of importance. The remainder of the CIHR budget is invested in "strategic" research, that is, research on specific topics of priority to Canadians identified by CIHR's Institutes following broad consultation.

CIHR provides a range of salary awards and training programs to support health researchers across all disciplines, building capacity in those areas where needs are identified. It develops and supports innovative training programs that promote a multidisciplinary approach to understanding health and disease. CIHR also contributes to improved research ethics policies and practices in Canada and internationally.

CIHR's investments in research and researchers are coupled with a growing emphasis on KT, to ensure that these investments have the broadest possible impact on improving the health of Canadians, the health-care system and the economy.

CIHR is responding to the health needs of Canadians. For example, CIHR is funding research that promises to improve our understanding of autism and address the needs of children and adults with this disorder and their families. In 2006-07 CIHR funded \$3.1 million in research related to autism, bring its total investment in research in this field to \$26.1 million since 2000. CIHR is also working with partners in the Health Portfolio to implement the new autism initiatives announced by the Minister of Health in November 2006 to improve knowledge and research on autism spectrum disorders (ASD) in order to help individuals and families facing the challenges of ASD.

Peer-review Process

CIHR manages an independent peer-review process for reviewing and selecting health research applications to ensure that it is funding the best applications received. Applications undergo a rigorous competitive review by experts in the field, who assess the proposals on the basis of excellence, technical approach and degree of innovation, and value to the health of Canadians. The presence of international reviewers helps to ensure that the research funded by CIHR is internationally competitive.

In 2006-2007, there were nearly 130 CIHR peer-review committees. The peer-review process involved over 2,200 peer-review committee members from Canada and abroad who volunteered as expert reviewers.

In response to a recommendation made by the International Review Panel (described below), a new governance system has been established, the Research and Knowledge Translation Committee (RKTC), to account for all research-related decision making within CIHR.

Knowledge Translation

A key part of CIHR's mandate, Knowledge translation (KT) is a dynamic and iterative process that includes the synthesis, dissemination, exchange and ethically-sound application of knowledge to improve the health of Canadians, provide more effective services and products and a strengthened health-care system. This mandate is accomplished through funding KT research and activities; facilitating and managing partnerships that can accelerate KT; and developing measurement, analysis and evaluation policies, frameworks and tools to assess the outcomes and impacts of CIHR-funded research.

Commercialization

In 2006 there were 532 biotech companies in Canada, responsible for over \$4 billion in revenues and \$1.7 billion in research and development expenditures with a total market capitalization of over \$15 billion⁴. CIHR, through its Commercialization and Innovation Strategy, has developed a coherent suite of programs to help move research discoveries from the academic setting to the marketplace.

3. Evaluating our Performance

After five years, as required by CIHR's own commitment to accountability to Canadians and in accordance with the *CIHR Act*, CIHR embarked on a significant and comprehensive evaluation by a prestigious International Review Panel (IRP), comprising 27 distinguished experts. The purpose of this review was to determine how well CIHR is fulfilling its mandate and to assist CIHR in learning from its first five years as it moves forward.

The panel met with more than 100 stakeholders – university and government leaders, partners in industry, health charities and the provinces and CIHR management and staff. Panel members also had access to detailed and extensive surveys of researchers from across Canada and an evaluation of each of CIHR's 13 Institutes.

The final report of the panel was published in June 2006 and is available at <http://www.cihr-irsc.gc.ca/e/31680.html>. The Executive Summary of the Year 5- International Review Panel

⁴ Source: BIOTECCanada, Biotechnology in Canada; Facts: <http://www.biotech.ca/content.php?sec=3>

Report - 2000-2005 is included in Section IV of this report. In addition, the major findings of the review as well as CIHR's response are referred to in various sections of this report.

4. CIHR's Partnerships – Leveraging our Impact

Partnerships have played a central role in the success of CIHR since its inception. By pooling resources, we have been able to fund more research in areas of shared strategic importance spanning a wide range of health challenges. CIHR engages partners along the entire spectrum of health research, from setting research priorities, through funding research, disseminating research results and, eventually, translating the resulting knowledge into action.

Partnerships span every Institute and strategic initiative at CIHR and partners come from a wide array of sectors including federal departments, other granting agencies, health charities, associations and provincial governments. There are many pan-CIHR partnerships, including such projects as the Regional Partnership Program and the Clinical Research Initiative.

CIHR's impact would be significantly reduced in the absence of partnerships. In the seven years that CIHR has been in existence, it has established more than 500 partnership agreements with over 350 organizations. Over the same period, these partnerships have leveraged more than \$558M⁵ in additional funding for CIHR-led health research projects. However, the value of a particular partnership extends beyond that of a financial transaction. Non-financial contributions can include access to professional networks, areas of expertise, shared tools and documentation and in-kind resources.

CIHR is working with national and international partners to address health problems in the developing world. For example, CIHR is supporting the Teasdale-Corti Global Health Research Partnership Program, a new, collaborative health research program developed with the other federal partners in the Global Health Research Initiative -- International Development Research Centre, Canadian International Development Agency, and Health Canada. The program supports teams of Canadian health researchers and researchers from developing countries who work on research projects that address global health problems. In March 2007 the Government announced \$20 million in funding that will support 13 research teams.

5. Risks and Challenges

CIHR continuously assesses opportunities, challenges and risks at three levels: strategic, programmatic and corporate. For environmental scanning and response development at a strategic level, each of the 13 Institutes has an Advisory Board that provides a wide variety of perspectives on health and health-research issues. These boards identify threats to the health of Canadians and opportunities for rapid advances in health knowledge and develop strategic research initiatives in response. At the programmatic level, CIHR assesses the opportunities and risks associated with different types of research and designs appropriate research funding mechanisms. At the corporate level, CIHR is working towards a framework for integrated risk management, and the corporate planning process involves the identification and assessment of risks on annual basis.

⁵ Currently, these figures represent only partner funds being administered by CIHR. As in-kind partner contributions can not accurately be validated and that partner funds not administered by CIHR are not included, partner contributions are likely understated.

The recent report of the IRP identified the major challenges and risks facing CIHR, including:

Governance and Management

- 1) Governance will be crucial in the next phase of CIHR. Accountability and transparency need to be reinforced at all levels of the organization. CIHR's Governing Council should consider its position as the main board of the organization and a single research committee should be established to account for all research expenditures.
- 2) Rapid growth and the challenges associated with matrix management across the Institutes and Ottawa has created management challenges within CIHR leading to the conclusion that the executive team needs expanding and strengthening. The most appropriate structure for handling these issues should be considered after an organizational review.
- 3) Scientific Directors should now be given further responsibility to oversee the panel activity in their scientific area. It would also seem reasonable that a future role of Scientific Directors might be to form the core of the central committee replacing Research Priorities and Planning Committee responsible for allocation of the whole research budget.
- 4) The crucial leadership role played by the Scientific Directors led the IRP to consider the succession challenges associated with moving Institutes every five to seven years and believe this is a significant issue as institutional memory will be lost. Options should be considered for ensuring the smooth transition of the Institutes.

Programs and Peer Review

- 5) Rapid growth, particularly of new strategic initiatives and peer review panels, has led to excessive complexity. This complexity needs to be reduced to enable opportunities and activities to be both focused and manageable.
- 6) The peer review system that is responsible for handling most of the research funding is currently under strain and requires more academic leadership. A review of its processes and structure is necessary.
- 7) Since teams and collaborations often form unpredictably and in a more bottom-up approach in response to complex problems, CIHR should develop a flexible and responsive approach to promote multi-disciplinary research.

Knowledge Translation

- 8) There remains lack of clarity about the definition of knowledge translation across the organization.
- 9) More attention should be directed at providing leadership in the area of technology commercialization.

Ethics

- 10) CIHR should increase its emphasis on research in ethics as well as its governance responsibilities that ensure that the research that it funds meets the highest ethical standards.

Evaluation

- 11) End-of-grant reports provide an important mechanism in accumulating data on achievements that can be used for future evaluations. There are standard metrics in all (research) settings and more effort needs to be invested in ensuring that these are collected and analyzed to plot the relative success of the organization. This process needs to be

addressed immediately so that information is available to assess CIHR objectively on its performance.

Communications

- 12) Communication remains an important and challenging activity for the CIHR, particularly the range of potential audiences, including funding partners, provincial and federal governments, universities, health researchers, international agencies and the citizens of Canada. CIHR management needs to consider creative approaches to the utilization of a wide range of communication sources and resources including effective use of electronic and web-based dissemination, and should continue to improve its communication with key stakeholders.

Canada's Research Landscape

- 13) A major outstanding challenge for the CIHR and health research in Canada is the apparent lack of co-ordination at the federal and provincial levels of the many different types and sources for funding for different aspects of health research. Support for infrastructure and research posts are welcome but must be aligned with the operating grants that are necessary to keep the research enterprise running.

In response to the risks and challenges noted above by the IRP's report, CIHR has introduced a number of changes to strengthen these areas:

Governance and Management

- 1) CIHR has strengthened the governance role of its Governing Council through a review, revisions and enhancements to the existing committee structure and related terms of reference;
- 2) It has delegated responsibility for funding decisions to management through the creation of the Research and Knowledge Translation Committee. This new committee had its inaugural meeting in February 2007; and
- 3) CIHR has revised its organizational structure to optimize organizational functioning, strengthen accountability, and support retention of corporate memory during Institute transition periods. This included consolidating administrative and service support functions under the Executive Vice President and adopting a Chief Financial Officer model as recommended by Treasury Board.

Research Programs and Peer Review

- 4) The Research Portfolio is leading efforts to streamline CIHR programs through the Better, Simpler CIHR Initiative and will also undergo an internal restructuring in 2007-2008 in an effort to better align programs and resources;
- 5) It is developing a standardization project which involves the review and streamlining of the competition management process; and
- 6) It is examining processes related to composition of peer review panels, peer reviewer recruitment, and standardized evaluation of grants.

Knowledge Translation (KT)

- 7) A new Vice President, Knowledge Translation and Partnerships was appointed in July 2006 and spent several months building internal capacity and reviewing existing activities; and
- 8) The KT Branch has completed a study to inform assessment of KT in peer review and is developing related guidelines. Similarly, work on a KT module for inclusion in requests for applications is in progress.

Ethics

- 9) CIHR has launched two strategic initiatives promoting ethics in research, both of which will help to build capacity in this priority area in Canada, and is promoting education in research ethics.

Evaluation

- 10) CIHR has strengthened its evaluation and analysis capacity, including analytical expertise on measuring the impacts of health research; and
- 11) CIHR is developing a research results database on the basis of an on-line end-of-grant reporting tool that will become mandatory for CIHR grant holders; the reporting tool is scheduled to be completed by December 2007 to lead to data available from the results database by 2010.

Communications

- 12) The Communications and Marketing Branch has implemented innovative strategies and programs that target a variety of audiences through workshops, CIHR's website, newsletters, daily alerts, and outreach events.

Canada's Research Landscape

- 13) CIHR was actively involved in the development of the Government's new S&T Strategy for Canada. The new Strategy states that "the government can improve value for money by developing a more comprehensive approach in its management of the overall envelope of support for higher education R&D. This includes ensuring the right balance in funding for researchers, direct and indirect costs of the research they perform, research infrastructure, and research networks." ;
- 14) CIHR is continuing to work closely with the Social Sciences and Humanities Research Council (SSHRC) and the Natural Sciences and Engineering Research Council (NSERC) and each are committed to collaborating at both the operational and strategic levels. For example, in 2006-2007, CIHR, NSERC, SSHRC and Quebec's three research agencies signed an agreement to extend the reach of the Canadian Common CV for researchers across the spectrum of research including the natural, social and health sciences, engineering and the humanities;
- 15) CIHR supports and hosts the Forum of Health Researchers, which brings together federal and provincial health and funding agencies and major charities to discuss the state of health research and collaborative activities that could be undertaken to support health research in Canada; and
- 16) CIHR has completed a series of studies which assess the impact of government investments in infrastructure (Canada Foundation for Innovation) and personnel (CRC) programs on current and future demand for research grants through CIHR.

Alignment to Government of Canada Strategic Outcomes

The following table illustrates how CIHR's Strategic Outcomes and Program Activities align to and support Government of Canada Strategic Outcomes:

CIHR Strategic Outcome	CIHR Program Activity	Alignment to Government of Canada Strategic Outcomes
1. Outstanding Research	1.1 Fund health research	Economic: An innovative and knowledge-based economy
2. Outstanding Researchers in Innovative Environments	2.1 Fund health researchers and trainees	Economic: An innovative and knowledge-based economy
	2.2 Fund research resources, collaboration and other grants to strengthen the health research community	Social: Healthy Canadians with access to quality health care
	2.3 Develop and support strong health research community through national and international alliances and priority setting	Social: Healthy Canadians with access to quality health care
	2.4 Inform research, clinical practice and public policy on ethical, social and legal issues (ELSI) related to health and health research	Social: Healthy Canadians with access to quality health care
3. Transforming Health Research into Action	3.1 Support activities on knowledge translation, exchange, use and strategies to strengthen the health system	Social: Healthy Canadians with access to quality health care
	3.2 Support national efforts to capture the economic value for Canada of health research advances made at Canadian institutions	Economic: An innovative and knowledge-based economy

Summary of CIHR's Performance

Measuring and reporting on CIHR's performance is critical both in terms of meeting our commitment to be accountable to Canadians and to ensure that our programs and investments have the maximum possible positive impact on Canadian society and to research internationally. Measuring the outcomes and impacts of health research investments is a challenge - countries around the world are grappling with this issue. Objectively demonstrating direct links between particular research investments and immediate, short-term or long-term, identifiable and measurable outcomes is difficult. As evidenced in this report, CIHR is committed to continuously improve the measurement and reporting of its performance.

During 2006-07, CIHR continued to create new opportunities for Canadian researchers to be internationally competitive. Today, more health researchers are receiving higher levels of funding in more disciplines and in all provinces. The result is health-research discoveries that are designed to make a difference to the health of Canadians in terms of disease prevention and improved diagnosis and treatment. New health research programs have been developed to help strengthen our health care system to better meet the needs of Canadians. Programs such as the Proof of Principle (PoP) program are catalyzing the commercialization of CIHR-funded research.

Since its inception in 2000, CIHR has been able to:

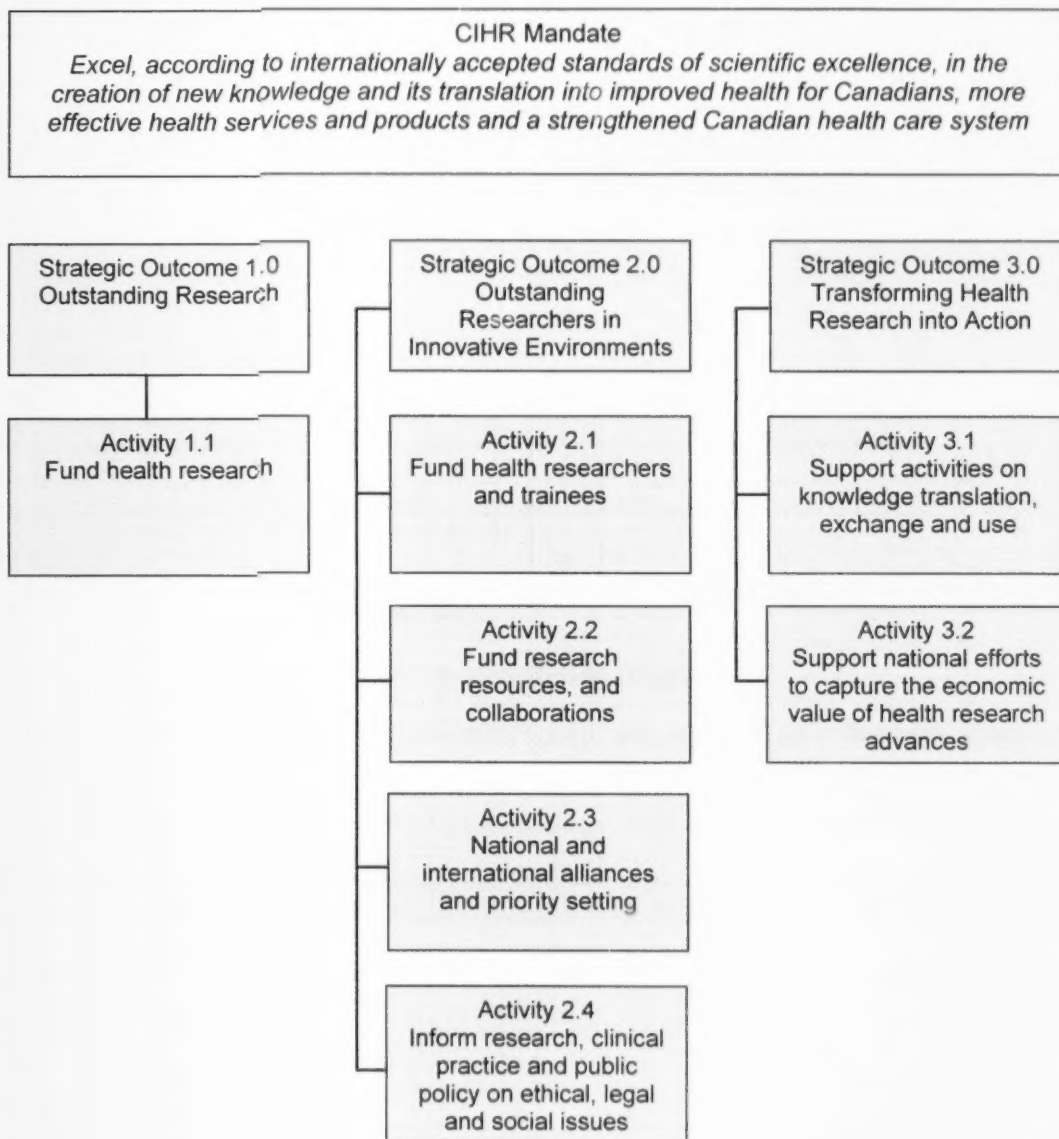
- Increase the number of CIHR-funded health researchers and trainees from approximately 6,000 to more than 11,000, an increase of more than 83%.
- Increase average annual open competition operating grants for individual researchers from \$92,000 to \$112,000, an increase of more than 21%.
- Fund a large number of health researchers in strategic priority areas that were identified in consultation with the community.
- Encourage and catalyze the commercialization of research.
- Develop important new partnerships with provincial health research agencies, industry and health charities.
- Put in place new collaborative agreements with partners in countries around the world.
- Develop programs to engage the users of health research in the health research process through KT research, synthesis and knowledge-to-action programs.

SECTION II: ANALYSIS OF PROGRAM ACTIVITIES BY STRATEGIC OUTCOME

Introduction

CIHR's Program Activity Architecture (PAA) is shown in Figure 1. The PAA consists of three Strategic Outcomes and the key program activities (and sub-activities) that support them. The performance information presented in the following pages is organized according to this structure (sub-activities are not shown in Figure 1).

Figure 1: CIHR's Program Activity Architecture (PAA)



Note on Information Sources: The information presented in this DPR is based on a variety of sources.

CIHR's information system provides data on the number and value of project awards under the various funding programs.

A second source is the results of a survey of funded and non-funded researchers conducted for CIHR by EKOS Research Associates in February and March 2005. Both surveys involved structured telephone interviews. A total of 1,676 interviews were completed (a response rate of 56.3 %) with respondents coming from a broad range of disciplines and located across the country. This survey provides valuable information on the perspectives of researchers, a key group of stakeholders, towards CIHR's many activities. Further information on this survey can be found at <http://www.cihr-irsc.gc.ca/e/31683.html>,

A third source is the results of program evaluation studies conducted on CIHR's Institutes and programs. More information, including methodology and detailed results for these evaluations, can be found at <http://www.cihr-irsc.gc.ca/e/31683.html>.

A fourth source is the report of the IRP, published in June 2006. . The report's executive summary is included in Section IV, and more information can be found at <http://www.cihr-irsc.gc.ca/e/31680.html>.

Organization of Performance and Results Information

The following pages are organized by each of CIHR's three Strategic Outcomes. First, an overview of the Strategic Outcome and its indicators is presented, along with some macro-level performance data. Then each Program Activity under the Strategic Outcome is presented, with details on its planned and actual expenditure and performance rating, as well as highlights of some results for selected sub-activities. Finally, each Strategic Outcome section concludes with a summary of relevant risks and challenges.

CIHR continues to make modifications to the set of performance indicators used to monitor its various program activities and sub-activities. The performance indicators currently used are provided in a table under each of the following sections that describes a particular Program Activity. A crosswalk table comparing these indicators to the indicators used in the 2006-2007 RPP is provided under Section III: Supplementary Information.

Strategic Outcome 1.0: Outstanding Research

CIHR's Strategic Outcome 1.0 ensures that the:

best health research is supported to create health knowledge responding to opportunities and priorities.

Enabling the conduct of outstanding research is the largest part of CIHR's core business. Throughout 2006-2007, CIHR continued to ensure that the best health research across all disciplines that are relevant to health was supported to create health knowledge responding to opportunities and priorities.

Summary of Results

Three measurement indicators are used to monitor CIHR's performance against this strategic outcome:

1. Canadian ranking in health research expenditures compared to international levels.
2. Number of publications resulting from CIHR-supported research and their impact.
3. Rating the quality of results of CIHR-funded research.

One of the key enabling inputs for health research is the amount available for investment. CIHR therefore monitors international trends regarding the level of investment in research in general and health research in particular. The number of publications resulting from CIHR-funded research is an indicator of the overall productivity of Canadian researchers. Finally, rating the quality of results of CIHR-funded research is an indicator of the quality of the outputs of investment in research.

It is important to note that CIHR is not the only organization that contributes to the achievement of this strategic outcome; therefore, CIHR does not claim direct attribution for the results.

1. Canadian ranking in health research expenditures compared to international levels

The Canadian government is the second-largest funder of general research and development (R&D) in Canada, behind the business sector. Since the end of the 1990s, federal expenditures have increased steadily, mostly through the funding of the higher-education system and via the federal granting agencies (CIHR, NSERC and SSHRC) as well as the National Research Council, Department of National Defence, Canada Foundation for Innovation (CFI), Genome Canada, etc.. However, total government funding for R&D in Canada still trails the US and other major Organisation for Economic Co-operation and Development (OECD) countries.⁶ Recent OECD data show Canada currently ranks 12th out of 30 countries in terms of the share of GDP invested in overall R&D.⁷

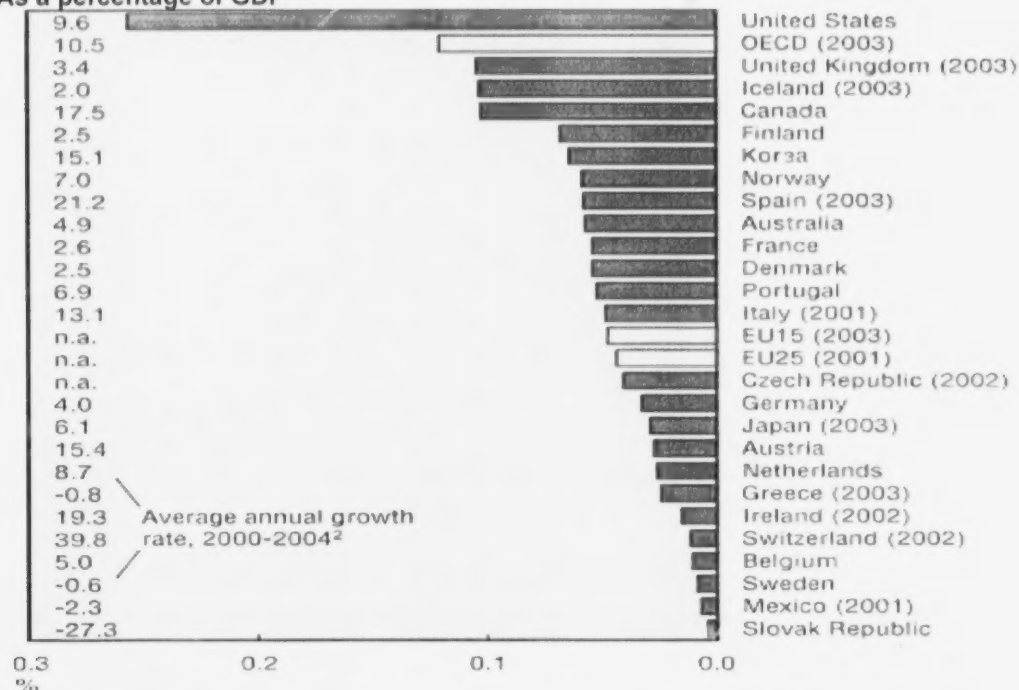
⁶ "Science and technology Policy Documents", *Science and Technology Data -- 2004* available at <http://strategis.ic.gc.ca/epic/internet/inrti-rti.nsf/en/te04319e.html>.

⁷ See OECD, Main Science and Technology Indicators, 2006 <http://www.oecd.org/dataoecd/49/45/24236156.pdf>.

Recent funding increases from the federal government have allowed Canada to assume a lead position among G-7 countries in terms of government health expenditures in R&D as a percentage of GDP. Overall, Canada ranks 4th behind the United States, United Kingdom and Iceland (Figure 2).⁸

Figure 2: Health-related R&D in Government Budgets (GBAORD¹), 2004

As a percentage of GDP



Source: OECD, Science, Technology and Industry Scoreboard 2005, figure A.8.

¹ "Government budget appropriations or outlays for R&D".

² Growth rate period is 2000-2003 for Greece, Iceland, Japan, Spain, Sweden, the United Kingdom and total OECD, 2001-2004 for Denmark; 2000-2002 for Ireland and Switzerland; 2000-2001 for Italy and Mexico.

2. Number of publications resulting from CIHR-supported research and their impact⁹

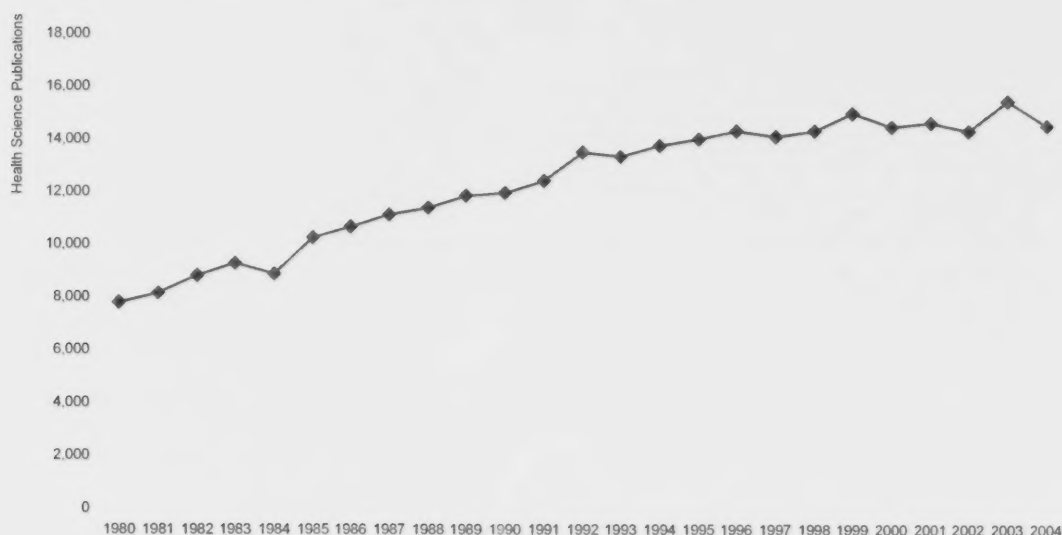
Publications are a key output measure of the productivity of researchers and a primary method by which the results of research are translated into results for Canadians. There are two key factors: the overall number of publications, and the measure of the impact that they have.

⁸ For further information, please see [OECD Science, Technology and Industry Scoreboard 2005 - Towards a knowledge-based economy](#). Please note that the variance between placement of the UK, Canada and Iceland is very small at roughly .02 of GDP.

⁹ Please note that these data present general publication trends in Canadian health research and cannot be used to discern the specific impact of CIHR. While CIHR is the largest single Canadian health research funding agency, the trends described here also include research publications supported through other funding sources.

As shown in Figure 3, the number of Canadian health research publications increased steadily from 1980 to 1999, leveling off to about 14-15,000 publications annually. The increased funding available during the first four years of CIHR's existence (2000 to 2004) has not yet resulted in a detectable increase in research output since most grants are three-to-four years in length and require approximately one year before results are published. However, the Canadian share of total health publications produced by the G-8 nations, which had been stable at about 6.4% between 1992 and 2000, started to rise in 2001, to reach 6.7% in 2004.

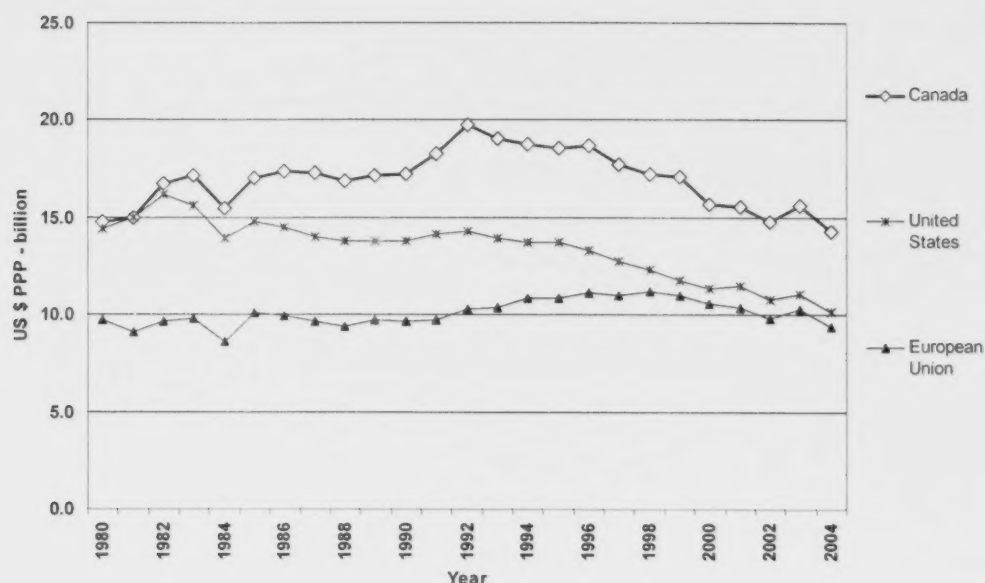
Figure 3: Number of Canadian Health Sciences Publications



Source : Observatoire des sciences et des technologies; 25 years of Health Research in Canada : A Bibliometric Analysis, November 2005 (Commissioned by CIHR).

Overall, Canada produces approximately 5% of the world's publications in health research. Another way to compare publication rates that takes into account the relative capacity of a nation to support health research is to examine the ratio of publications to GDP. As shown in Figure 4, Canada's rate of scientific production is strong compared to the US and the European Union (EU) when the size of the overall domestic economies is taken into account. In fact, Canadian health researchers tend to produce more per dollar of GDP compared to health researchers in the US or EU.

Figure 4: Health Research Publications by GDP



Sources: GDP data is from OECD database, US 2003 GDP data from national accounts data, Canada 2003 GDP data from Statistics Canada.

3. Rating the quality of results of CIHR-funded research

A useful measure of the quality of research funded by CIHR would be the degree of importance attached to the outputs of funded research by external experts. For example, we could compare the rankings generated by leading international health research journals from the review of publications produced from CIHR funded research, to the rankings of non-CIHR funded research. While CIHR intends to more systematically assess the quality of health research produced from CIHR-funded research projects, we acknowledge this will take some time to develop.

Performance at the Program Activity Level of the MRRS

The following sections describe each of the Program Activities that contribute to Strategic Outcome 1.0 and present the results achieved in 2006-2007.

Program Activity 1.1: Fund Health Research

Financial Resources (in millions)

Planned Spending	Authorities	Actual Spending
\$469.4	\$472.4	\$499.5

Human Resources

Planned	Actual	Difference
207	184	-23

Expected Results	Indicators
Effective and efficient funding programs that enable ethical health research creating health knowledge that responds to opportunities and priorities.	<ol style="list-style-type: none">1. Level of activity: number and dollar value of investments.2. Success of CIHR-funded research programs, including results, awareness and satisfaction levels3. Extent to which Institutes have influenced the research, policy and/or practice agendas in their communities.

CIHR supports the development of new knowledge through health research across all disciplines that are relevant to health. CIHR provides grants for both investigator-initiated and strategic research through competitions in conjunction with many partners.

Program Activity 1.1 Performance Status: *Met Expectations*

The following pages present a summary of the performance of two of the major sub-activities that support the performance status of Program Activity 1.1: Open Operating Grants Program and Institute Strategic Initiatives.

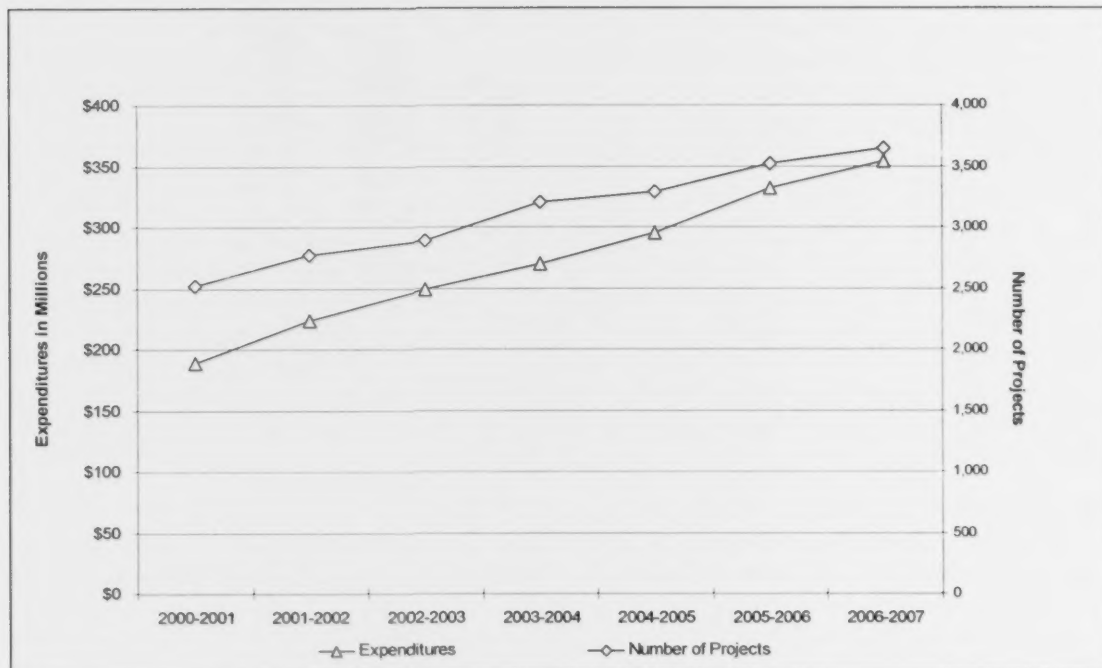
A. *Open Operating Grants Program*

The Open Operating Grants Program represents CIHR's single largest investment: in 2006-2007, CIHR invested \$353.7M, which represents more than 50% of CIHR's total investment in grants and awards research (excluding Canada Research Chairs and Networks of Centres of Excellence). This open research support program encourages Canadian health researchers to pursue their very best ideas, define and pursue the mode of research best suited to advance those ideas, and pursue the opportunities most likely to advance the impact of their work.

Applications are accepted in all areas relevant to health and to CIHR's mandate and are funded according to their excellence as determined by peer review. There is a regular competition cycle with two application deadlines per year: September 15 and March 1.

The number of projects supported through CIHR's Open Operating Grants program, together with program expenditures for the period 2000-2001 to 2006-2007 are shown in Figure 5.

Figure 5: Number of Projects Supported and Expenditures of the Open Operating Grants Program

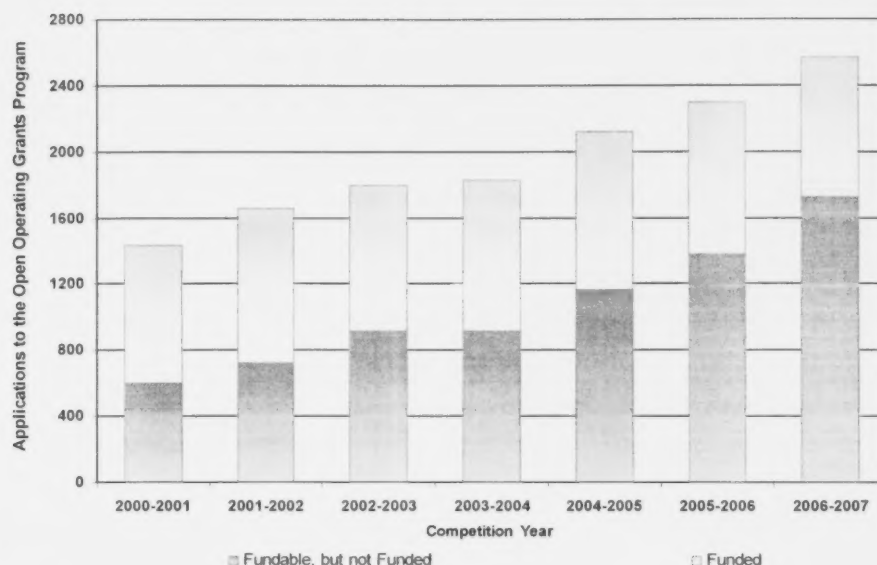


Source: CIHR Funding Database

Although more health research funding has become available to Canadian researchers, it has not necessarily become more accessible. Figure 6 shows the trends in the number of fundable¹⁰ applications to the Open Operating Grants Program that were not funded, compared to the number funded, over the period between 2000-2001 and 2006-2007. This may be regarded as one measure of CIHR's success: with its broadened mandate, it has stimulated applications from more researchers in all areas of health research.

¹⁰ CIHR has a rating scale of 0-5 for peer review of funding applications, and only applications rated 3.5 and above are eligible for funding.

Figure 6: Fundable Applications to the Open Operating Grants Program



Source: CIHR Funding Database

Note: CIHR has a rating scale of 0-5 for peer review of funding applications, only applications rated 3.5 or higher are eligible for funding.

The Operating Grants Program was evaluated in 2004. The study was not able to assess the return on investment from funded projects, and therefore recommended that CIHR develop better ongoing performance measurement for the research funded by this program. Researchers surveyed by the evaluation stated that the program was a very important component of Canada's ability to generate highly qualified personnel. There were three main recommendations: develop better ongoing performance measurement for the program; review and clearly communicate the goals of the program in the context of other CIHR funding programs; and ensure that the peer-review processes do not unnecessarily disadvantage proposals from applicants who do not have an established CIHR track record, especially in nascent fields where capacity is developing and where researchers are attempting to address emerging issues of importance to Canadians. Since the evaluation was completed, progress has been made in implementing the study recommendations. For example, an electronic research-results reporting system is in development; a new electronic newsletter has been developed that identifies new developments regarding research funding; and work has commenced to improve the rating scale and criteria used by peer-review committees.

Cancer is one of the most devastating diseases facing Canadians

More than 38% of Canadian women and 44% of Canadian men will develop some form of cancer in their lifetime, while about a quarter of all Canadians will die of cancer. Canadian researchers are making important advances in the fight against this dreaded disease. Here are just two research discoveries made from CIHR-funded research reported during 2006-07.

Putting old drugs to new uses in the fight against cancer

A drug that has been used for decades to treat children with inborn errors of metabolism due to mitochondrial diseases (diseases caused by the failure of mitochondria to create the energy needed by cells, leading to cell injury and death) could be an effective treatment for many forms of cancer. Dr. Evangelos Michelakis of the University of Alberta has shown that the drug, called DCA, causes regression in cancers of the lung, breast and brain. The drug is already known to be non-toxic in humans and, because it is not patented or owned by a pharmaceutical company, would be relatively inexpensive to administer. Clinical trials of the drug could start as early as summer 2007.

Diabetes and obesity gene presents new hope for breast cancer

A gene known for its role in diabetes and obesity is also present in two out of five women diagnosed with breast cancer, according to research by McGill University's Dr. Michel Tremblay. The gene, PTP1b, plays a central role in the proliferation and metastasis of cancer tumors. Dr. Tremblay's team had earlier shown that suppressing the enzyme produced by the gene could cure type 2 diabetes and obesity. They will now focus on adapting the compounds to attack breast cancer. New drugs could be fast-tracked for clinical trials as early as this fall.

B. Institute Strategic Initiatives

The total expenditures of the Strategic Initiatives program were \$95.2M in 2006-07. In deciding how to allocate these funds, the Scientific Directors and the Institute Advisory Boards are guided by the strategic plan of each Institute, CIHR's overall strategic plan (*Blueprint¹¹*) and discussions with other Institutes and external partners and decisions by CIHR's RKTC.¹²

As noted above, a key indicator pertaining to the success of the Strategic Initiatives Program is the degree to which the Institutes have influenced research, policy and practice agendas in their communities. The two sources of information on this indicator are the results of the assessments conducted by the IRP and the opinions of our researchers and other key informants, including government policy makers and non-governmental organizations.

The IRP concluded that the Institutes "...have emerged as powerful components of the new vision of health research in Canada and, despite the limited resource available to them, have catalyzed a range of new initiatives in the health research arena in the country that are

¹¹ CIHR's *Blueprint for Health Research and Innovation*: <http://www.cihr-irsc.gc.ca/e/20266.html>.

¹² Prior to 2006-07, this committee was called Research Planning and Priorities Committee.

responsive to pressing problems. To have achieved the successful delivery of 13 such organizations must be seen as one of the most significant accomplishments of the CIHR."¹³

As noted previously, the most recent survey of researchers was conducted in 2005. We believe the results would change very little for 2006-2007, given the long-term nature of most research projects. Overall, more than one-third of funded health researchers (35%) stated that the Institute with which they were affiliated had been successful to a large extent in influencing the research agenda within its mandate, and 52% believe it had been successful to some extent. The detailed survey results are available at: <http://www.cihr-irsc.gc.ca/e/30958.html>

Alzheimer's disease

One-in-ten Canadians over age 65 – and one-in-four over age 85 – will develop Alzheimer's disease (AD). Caring for people with AD costs about \$5.5 billion each year in Canada. AD is the most common form of dementia, accounting for nearly two-thirds of all dementias. Twice as many women as men have dementia. By 2031, more than 750,000 Canadians are expected to have AD and related dementias.

New developments in Alzheimer's disease

Dr. JoAnne McLaurin of the University of Toronto has found that a drug that stops the accumulation of amyloid beta peptide in the brain can halt Alzheimer's disease in mice. The drug has now been approved for the first phase of clinical trials in humans. Meanwhile, in what they term "among the most important scientific discoveries ever made in Canada in dementia research", Drs. Ian Mackenzie and Howard Feldman of the University of British Columbia discovered that mutations in a gene called progranulin cause an inherited form of frontotemporal dementia, the second-most common form of dementia in those under age 65.

When care is far away

A quarter of Canada's seniors live in rural areas. With the prevalence of dementia expected to double in the next 30 years, there is a growing need for specialized services and personnel. Strategies to Improve the Care of Persons with Dementia in Rural and Remote Areas is a CIHR-funded project led by Dr. Debra Morgan from the Canadian Centre for Health and Safety in Agriculture at the University of Saskatchewan. The team has developed, implemented and is evaluating the Rural and Remote Memory Clinic as a unique one-stop destination for dementia care, with close ties to Telehealth for follow-up care. The team's work has improved access to specialized care for seniors, while reducing the burden of travel for multiple purposes, such as assessment, diagnosis and follow-up.

* * *

Risks and Challenges: Strategic Outcome 1.0

While the number of research applications has increased over the past several years, there is an increasing gap between the number of proposals submitted that are rated as excellent and the number that the organization is actually able to fund. As noted earlier in the section on risks and challenges, the inability of CIHR to fund all applications that are rated as very good, excellent or outstanding is a major concern.

¹³ CIHR Year 5 International Review Panel Report 2000-2005, June 2006, p. 11.

Research is a long term endeavor and researchers require certainty that the funding provided by government will be available for the duration of the study. As a result, most of CIHR's grants and awards extend over a three to five year period which also implies that the majority of CIHR's budget in any given year must be set aside to meet the financial obligations created by approvals made in previous years. CIHR is required to manage research funding prudently and carefully consider the multi-year implications of its decisions to ensure that acceptable amounts of funding are available in all years to support approvals of new grants and awards.

As noted by the IRP, CIHR needs to collect more data on the results of funded research, to allow for more effective decision making in the future. CIHR is developing a "Research Reporting System" for all grant holders, which will capture information on the findings, outputs and, where possible, the outcomes of funded research. The new reporting system is planned for a phased-in implementation starting with the Open Operating Grants Program in 2008-2009.

The IRP also noted the need for more formalization of the responsibility of Institutes and the Institute Scientific Directors for research relevant to their Institutes that is funded through the Open Operating Grants Program. Benefits would include increased accountability over the appropriate allocation and distribution of resources between operating and strategic initiatives. CIHR established a new governance system, RKTC with the Institute Scientific Directors as members, to account for all research-related decision making within CIHR.

Strategic Outcome 2.0: Outstanding Researchers in Innovative Environments

Strategic Outcome 2.0 focuses on building a:

strong health research community able to undertake outstanding research.

Developing a community of outstanding health researchers is another part of CIHR's core business. The main instruments used by CIHR to develop health research capacity in Canada are training and salary awards, Institute-led partnerships and ethical research standards.

Summary of Results

CIHR uses several indicators to monitor long-term trends in this area, two such indicators being:

1. Percent of PhD graduates in Canada planning postdoctoral fellowships in health.
2. Quality and availability of adequate resources for research (e.g., infrastructure, hardware and software).

As noted earlier, indicators at the strategic outcome level are general societal indicators. Since these are longer-term outcomes to which CIHR, along with many other organizations, contributes, CIHR does not claim direct attribution to the results. CIHR contributes to the development of highly qualified personnel through direct investments in people via training and salary awards.

1. Percent of PhD graduates in Canada planning postdoctoral fellowships in health

The percentage of PhD graduates planning postdoctoral work is a key indicator of both the likelihood of PhD training encouraging individuals to continue in health research and the potential demand for CIHR postdoctoral fellowship awards. According to the 2005 Survey of Earned Doctorates, 56% of all graduates planned to enter the labour force after graduation, while 34% were planning to undertake a postdoctoral fellowship.¹⁴ However, for those graduating in the life sciences, approximately 64% were planning on continuing their training or study through a postdoctoral fellowship or other arrangement.

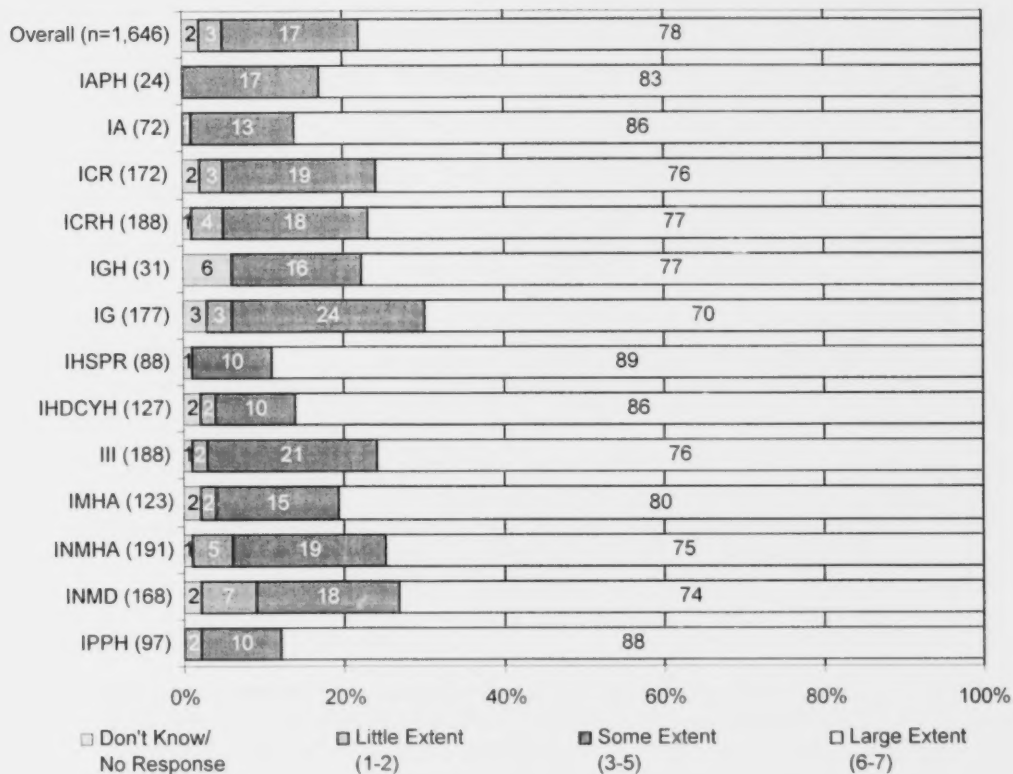
2. Quality and availability of adequate resources for research

The 2005 survey of CIHR-funded researchers found that 70% agreed that capacity in terms of research environments (infrastructure, hardware and software) is optimal to some extent, with only 8% saying it is optimal to a large extent. As Figure 7 demonstrates, researchers clearly identify capacity building as an area of high need; ranging from 88% (IPPH) and 89% (IHSPR) to 70% (IG).

¹⁴ Data taken from Gluszynski, Tomasz and Valerie Peters, *Survey of Earned Doctorates: A Profile of Doctoral Degree Recipients*, Statistics Canada and Human Resources Development Canada, 2005, p. 14.

Figure 7: Need for Institutes to Develop Capacity – Funded Researchers

"To what extent is the Institute needed in your field of research to support the development of Canadian capacity (in terms of people and research environment)?"



Source: Survey of Funded Researchers, 2005

n = 1,676

Performance at the Program Activity Level of the MRRS

The following sections describe each of the Program Activities that contribute to Strategic Outcome 2.0 and present the results achieved in 2006-2007.

Program Activity 2.1: Fund health researchers and trainees

Financial Resources (in millions)

Planned Spending	Authorities	Actual Spending
\$217.7	\$218.1	\$190.4

Human Resources

Planned	Actual	Difference
105	94	-11

Expected Results	Indicators
Effective and efficient funding programs that ensure a supply of highly trained health researchers and trainees is available to conduct outstanding research.	<ol style="list-style-type: none">1. Level of activity: number and dollar value of investments.2. Success of CIHR-funded salary and training programs, including results, awareness and satisfaction levels.

CIHR utilizes individual training and awards programs, large group strategic awards and participation in the Canada Research Chairs, and Canada Graduate Scholarships programs, to assist in developing highly qualified talent and research capacity in Canada.

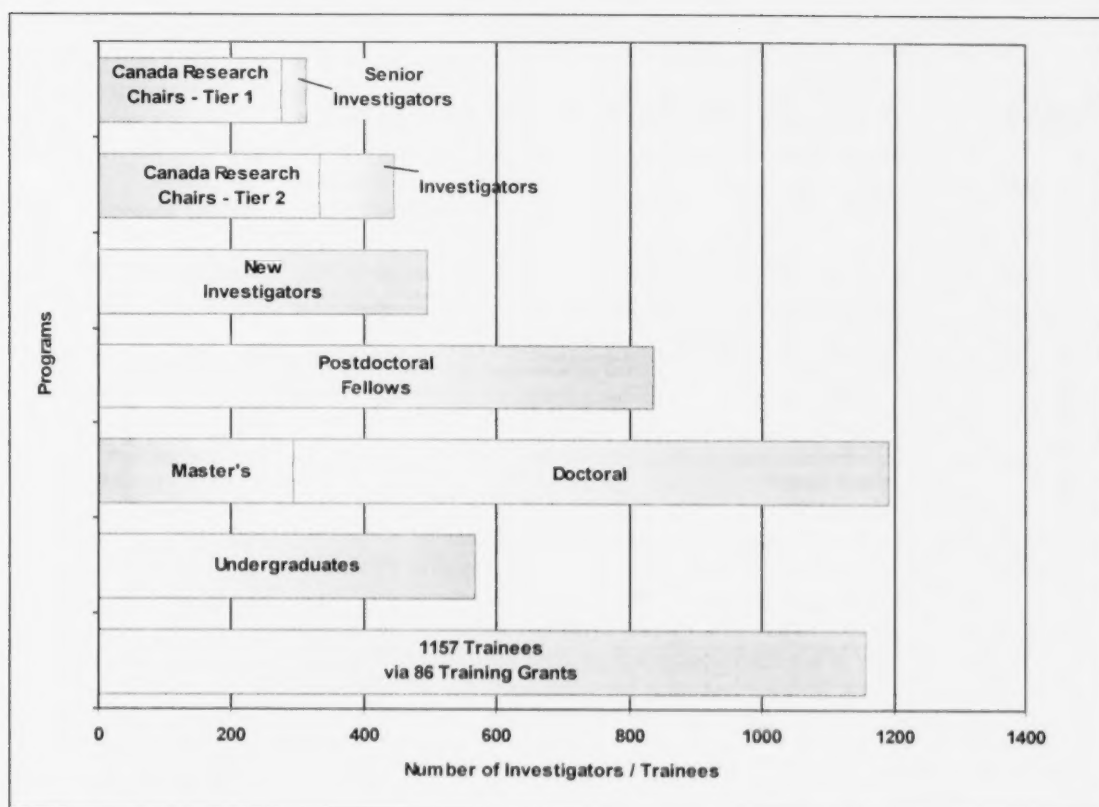
Program Activity 2.1 Performance Status: **Met Expectations**

The following pages present a summary of the performance of selected sub-activities that support the performance status for Program Activity 2.1.

A. **Training and Salary Awards**

A key instrument used by CIHR to develop health research capacity in Canada is training and salary awards. Figure 8 shows the number of people in health research across Canada who were supported by various CIHR awards programs in 2006-2007 (including the Canada Research Chairs, which is flow-through funding).

Figure 8: Research Capacity Building Support in 2006-07



Source: CIHR Funding Database

Overall, expenditures in training and salary awards have increased between 2000-2001 and 2006-2007, but the trend over this period has fluctuated as shown in Figure 9.

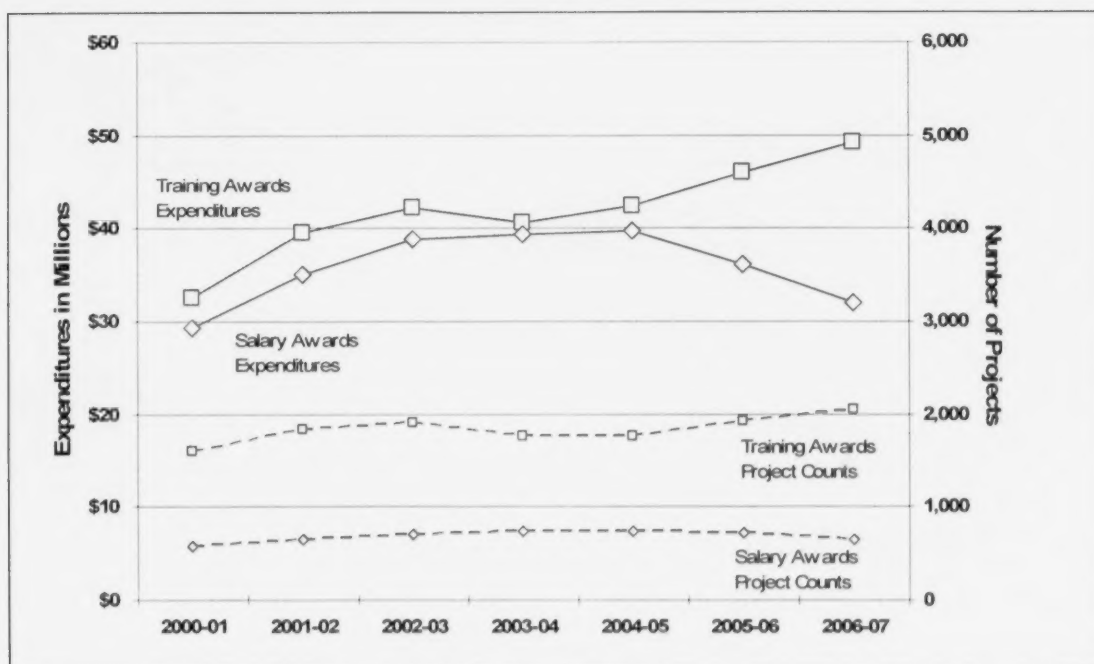
Training award expenditures rose from approximately \$33M in 2000-2001 to \$49M in 2006-2007. Salary award expenditures rose from \$29M in 2000-2001 to approximately \$40M in 2004-2005 and then declined to \$32M in 2006-2007 due to the termination of the Investigator, Senior Investigator, and Distinguished Investigator programs in 2003. Salary awards are also being terminated early due to the uptake of Canada Research Chairs (CRC) by recipients of CIHR salary awards. As per CIHR and CRC regulations, an individual may not hold a CIHR salary award and a CRC concurrently.

The 2005 survey of researchers provided feedback on the need for training grants and awards programs. Some of the findings were as follows:

- Researchers perceive a particularly great need for grants programs that fund training awards, grants and salary awards to help young researchers (88%).

- A majority of CIHR-funded researchers see a great need for the Institute with which they are affiliated to support the development of Canadian capacity in terms of people and the research environment (78%).

Figure 9: Expenditures in Training and Salary Support



Source: CIHR Funding Database

Note: Salary Award figures exclude the Canada Research Chairs

B. Strategic Training Program

The most significant training program introduced by CIHR is the Strategic Training Initiative in Health Research (STIHR). STIHR supports innovative, interdisciplinary training through a block grant to a team of mentors, who must use at least 70% of the grant for the support of trainees. The program is delivered in collaboration with 15 partner organizations. Launched largely through the Institutes, it allowed those Institutes that had prioritized capacity development in their strategic plans to develop training programs in targeted areas.

In 2006-2007, CIHR provided funds to 86 STIHR grants, supporting an estimated 1,100 trainees. An additional 1,300 trainees participated in these training programs but did not receive a stipend directly. Examples of STIHRs include "Neurophysics: Setting New Frontiers in Neuroscience with Material Sciences and Photonics" at Laval University, and "Communication and Social Integration in Healthy Aging" at the University of Toronto, which links researchers from six different Canadian universities, and which won the American Psychological Association Award for Innovative Practices in Graduate Education in February 2005. The STIHR program is being evaluated in 2007-2008.

C. Canada Research Chairs

CIHR contributed \$82.2M to the Canada Research Chairs (CRC) program in 2006-2007 to support 608 Chair awards in health research. The CRC initiative provides up to 2,000 Chair awards to excellent researchers in all disciplines, 1,000 each at the senior (Tier 1) and junior (Tier 2) levels. CRC funds are voted to CIHR by Parliament and specifically earmarked for this program. CIHR's Governing Council cannot divert these funds to other programs.

D. Canada Graduate Scholarships

The Canada Graduate Scholarships (CGS) Doctoral and Master's awards programs were introduced in 2003 by the federal government. These programs provide additional funding to CIHR specifically to support individual training awards for Master's and PhD level students. In 2006-2007 CIHR invested \$10.1M in CGS to support 285 PhD students and 275 Master's students.

Synapse

The Synapse youth outreach program, intended to bring young people together with health researchers, got fully underway in 2006-07 and had a highly successful first year, eliciting a strong response from researchers and youth science organizations across the country. More than 2,000 researchers have registered as Synapse youth mentors, with another 700 expressing interest in the program. The first Synapse Mentorship Awards were announced in spring 2007. Other highlights of the first year include the appointment of a Youth Outreach Advisory Board and the launch of the Synapse website, with sections for both youth and researchers. Four new flash animations will profile CIHR supported health research for high-school students.

Program Activity 2.2: Fund research resources, collaboration and other grants to strengthen the health research community

Financial Resources (in millions)

Planned Spending	Authorities	Actual Spending
\$73.2	\$70.4	\$66.2

Human Resources

Planned	Actual	Difference
31	28	-3

Expected Results

Effective and efficient partnerships and funding programs that lead to a dynamic research environment and outstanding research.

Indicators

1. Level of activity: number and dollar value of investments.
2. Success of CIHR-funded research resources and collaboration programs, including results, awareness and satisfaction levels.

CIHR is strengthening the health research community's ability to conduct research by supporting research-enabling activities and resources. This includes supporting large teams of researchers from across disciplines in resolving some of the most complex health problems facing Canadians, engaging in collaborative activities such as networking and providing and maintaining state-of-the-art tools such as new equipment, databases and other specialized resources to conduct research.

Program Activity 2.2 Performance Status: *Met Expectations*

The following pages present a summary of the performance of selected sub-activities that support the performance status for Program Activity 2.2.

A. *Team Grants*

CIHR contributes funding to several team-related programs as part of its strategy to strengthen the research environment and enable outstanding research. In 2004, CIHR introduced the Team Grant program. It is designed to bring together researchers across multiple disciplines in order to harness their collective expertise to solve complex, multifaceted health challenges.

The expenditures of the Team Grants program in 2006-2007 were \$17.4M. Through the second annual call for proposals, CIHR funded 19 projects selected from 49 applications received. The projects are focusing on health issues of high importance to Canadians. A third annual competition was also underway in 2006-2007, with bi-annual competitions planned thereafter. Once running at full capacity, it is expected that up to 100 teams will be supported, bringing together researchers from across multiple geographic and disciplinary boundaries. An evaluation of the Team Grants program will be scheduled within the five-year evaluation plan that will be prepared in 2007-2008.

Preventing Injuries at Work

Working in a fish processing plant is hard on workers' bodies. A multidisciplinary team of researchers from Memorial University and the University of Quebec at Montreal collaborated with workers, managers and the union at Beothic Fish Processors Limited in a CIHR-funded study to reduce the number and severity of work related musculoskeletal disorders among the workers. This was an innovative study of the health and safety risks faced by workers in a crab-processing plant, but that's not all that makes it unique. It combined a psychosocial survey, biomechanics research, participatory ergonomics interventions and a study of workers' strategies for coping with pain. It also included workers in the plant, their union and the plant's managers not simply as research subjects, but as full partners and active participants. This research is one of the studies undertaken by SafetyNet, a comprehensive research program examining the occupational health and safety of marine and coastal work that is led by Drs. Barbara Neis and Stephen Bornstein of Memorial University.

B. *Regional Partnerships Program*

CIHR's Regional Partnerships Program (RPP) promotes health research in provinces that traditionally are not considered as being major centres of health research in Canada. CIHR, together with partners in these regions, co-funds applications submitted to CIHR that are shown

to be fundable through CIHR's peer-review process, but are below the funding capacity of various CIHR competitions. The investment in the RPP was \$3.5M in 2006-2007.

The RPP was evaluated in 2005. The evaluation resulted in the renewal of the program for two years, and a project was undertaken to update and renew the program objectives, eligibility criteria and partnership framework. It is anticipated that the revised program will be announced during 2007-2008.

Program Activity 2.3: Develop and support a strong health research community through national and international alliances and priority setting

Financial Resources (\$ millions)

Planned Spending	Authorities	Actual Spending
\$28.2	\$28.1	\$23.3

Human Resources

Planned	Actual	Difference
12	10	-2

Expected Results	Indicators
National and international health research agendas as well as strong alliances and partnerships are formulated and implemented.	<ol style="list-style-type: none"> 1. Level of activity: number and dollar value of investments. 2. Success of CIHR-funded partnership research programs, including results, awareness and satisfaction levels.

CIHR is developing strong national and international partnerships, through CIHR's 13 Institutes, to advance strategic health research priorities and leverage funding and expertise for research. These partners include health policy makers at provincial, federal, and international levels of government, the private sector and voluntary health organizations from Canada and abroad.

Program Activity 2.3 Performance Status: *Met Expectations*

The major supporting activity is Institute Support Grants, whereby CIHR provides each of its 13 Institutes with a \$1M support grant annually to facilitate and develop national research networks that link researchers. These grants support the operations of Institutes, including the salaries of Scientific Directors and Institute staff and other administration expenses. They also support Institute activities such as workshops and symposia that promote, encourage and support the research community affiliated with the Institute, and the Institute's research planning activities.

Mid-term evaluations of all 13 Institutes were completed in December 2005.¹⁵ The evaluations concluded that all 13 Institutes have succeeded in developing effective collaborations and partnerships. In fact, for some of the Institutes, partnership development was identified as their key strength. According to the stakeholders associated with each Institute who were interviewed during the evaluation, collaboration and partnership development has benefited the Institutes in several ways, including better coordination of research priorities and activities, enhanced capacity to develop common strategies to address areas of shared interest and, to some extent, the leveraging of additional funds.

Program Activity 2.4: Inform research, clinical practice and public policy on ethical, legal and social issues (ELSI) related to health and health research

Financial Resources (in millions)

Planned Spending	Authorities	Actual Spending
\$6.3	\$6.3	\$2.2

Human Resources

Planned	Actual	Difference
3	3	0

Expected Results	Indicators
Uptake and application of ethics knowledge as an integral part of decision-making in health practice, research and policy.	<ol style="list-style-type: none"> 1. Level of activity: number and dollar value of investments. 2. Success of CIHR ELSI activities, including results, awareness and satisfaction levels.

Planned Spending for Program Activity 2.4 was overestimated for 2006-07. Activities that were properly attributed to another program activity were inadvertently included as part of ELSI. CIHR will ensure that planned spending levels for Program Activity 2.4 are more accurately presented for future fiscal years through the Annual Reference Level Update and Main Estimates exercises.

Broadly speaking, CIHR has two approaches to the ethical, legal and social issues (ELSI) of health. They center mainly around their relation to research on ethics, and ensuring ethics in research. Although ethics is cross-cutting at CIHR, with significant initiatives housed with individual Institutes, the Ethics Office is, for the most part, the hub of such activities.

¹⁵ Detailed Institute evaluations can be found at: <http://www.cihr-irsc.gc.ca/e/31683.html>.

In its Report on Plans and Priorities, CIHR has committed to promoting research on ELSI related to health, contributing to broader health policy debate and addressing allegations of non-compliance with research policies and governance of ethics on research involving humans. CIHR's expected result in this area is that uptake and application of ethics knowledge will be an integral part of decision making in health practice, research and policy.

Program Activity 2.4 Performance Status: *Met Expectations*

The following is a summary of the performance of selected sub-activities that support the performance status for Program Activity 2.4.

CIHR funds research on ELSI related to health and health research. In addition, CIHR engages in inclusive dialogue across all sectors, disciplines and communities, and pursues public engagement to improve knowledge and understanding of ELSI in the context of health and health research. In 2006-2007, CIHR invested approximately \$1.8M to support ELSI-related grants and awards.

Since the release of the IRP report, CIHR's Ethics Office has undertaken and participated in several new activities to promote research in ethics and to demonstrate ethics leadership in Canada, including:

- Launching strategic initiatives that promote research in ethics (e.g., Ethics Seed Grants, which foster research in "ethics of health and health research" by building research capacity in Canada), as well as supporting three RFA-based research projects, six collaborative agreements and eight workshops.
- Supporting the development of an enhanced research oversight system through several initiatives, such as participating as a member of the Sponsors Table initiative and the Canadian Research Integrity Committee initiative.
- Developing a triage instrument to distinguish between public health activities requiring Research Ethics Board (REB) review and those not requiring this level of review; supporting a demonstration project for centralized ethics review of multi-centre trials.
- Promoting education in research ethics through funding to the National Council on Ethics in Human Research (NCEHR).
- In conjunction with NCEHR and the World Bank, delivering educational modules on research ethics to REBs in four Caribbean countries, through the facilities of the World Bank's Global Distance Learning Network.

Diabetes

More than two million Canadians have diabetes. By 2010, this number is expected to rise to three million. Type 1 diabetes is usually diagnosed in childhood and involves an abnormal autoimmune response that destroys insulin-producing cells in the pancreas, resulting in little or no insulin production. Type 2 diabetes typically begins in adulthood, although more and more children are developing the disease. Type 2 diabetes develops because the body's cells become resistant to the effects of insulin and the insulin-producing cells of the pancreas are unable to compensate. Diabetes and its associated illnesses cost the Canadian health-care system an estimated \$13.2 billion a year.

A possible cure for type 1 diabetes

Malfunctioning nerves may play a role in the development of type 1 diabetes, according to research by Drs. Michael Salter and Hans-Michael Dosch of Toronto's Hospital for Sick Children. These misbehaving nerve cells produce chemicals that trigger the immune system to destroy the insulin-producing islet cells of the pancreas. By killing the nerves with a chemical derived from chili peppers, the researchers were able to cure diabetes in mice. Drs. Salter and Dosch hope to begin testing the procedure in humans by 2008.

* * *

Risks and Challenges – Strategic Outcome 2.0

In delivering results related to Strategic Outcome 2.0, Outstanding Researchers in Innovative Environments, CIHR is presented with the following challenge:

Canada faces potential shortages in research personnel, given increasing demand for high-quality researchers around the world at a time of increasing rates of retirement among senior researchers.

This issue was identified in a recent Conference Board of Canada report card that assessed Canada's socio-economic performance.¹⁶ The report noted that:

Canada has a shortage of the skilled people who are essential for innovation. We have 7.2 researchers per 1,000 employees, compared with 16.5 per 1,000 in top-ranked Finland. Canada ranks 12th among the 17 comparator countries in the proportion of graduates with science and technology degrees.¹⁷

The risk of not adequately addressing this challenge is that Canada may lack the intellectual capital to conduct the research needed to support improvements in the health of Canadians and the health-care system. A shortage of personnel conducting research on new health products and services places Canadian economic competitiveness at risk.

¹⁶ Conference Board of Canada, *How Canada Performs: A Report Card on Canada*, June 2007, available at: <http://www.conferenceboard.ca/Default.htm>.

¹⁷ Ibid, p. 4.

To mitigate this risk, CIHR has made research capacity development a priority and has funded both individual awards and strategic health research training programs to address capacity gaps.

Strategic Outcome 3.0: Transforming Health Research into Action

Strategic Outcome 3.0 focuses on ensuring that:

health research is adopted into practice, programs and policies for improved health of Canadians and a productive health system; stimulation of economic development through discovery and innovation.

CIHR's KT strategy aims to accelerate the transformation of research results into health benefits for Canadians and an improved health-care system. This includes funding research on KT, synthesis and exchange activities and building KT networks. CIHR also plays a role in helping to move promising new research breakthroughs toward potential commercial applications.

Summary of Results

Several key strategic outcome indicators are used to monitor CIHR's progress in this area, including the following:

1. Extent to which CIHR-funded researchers are integrating KT targets into their work.
 2. Number and nature of patents, spin-off companies and licences for intellectual property generated from CIHR-funded research.
- 1. Extent to which CIHR-funded researchers are integrating KT targets into their work.**

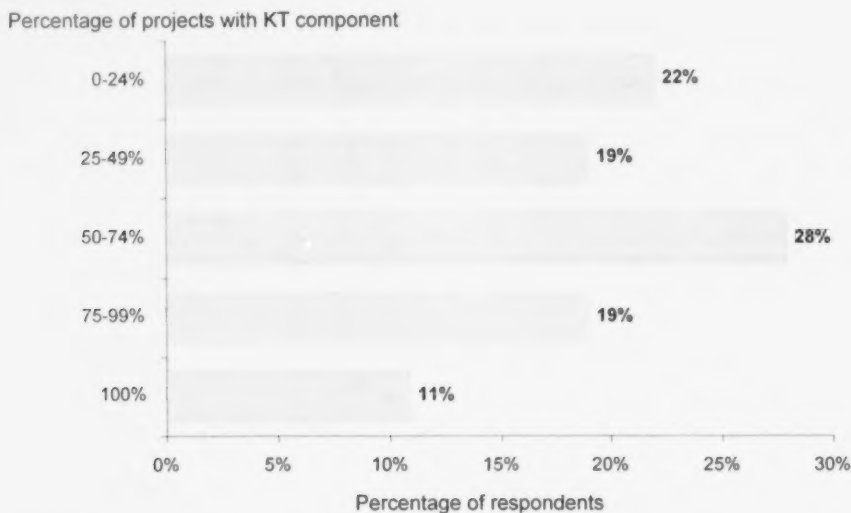
One indicator of progress in this area is the extent to which the nature of funded research is changing to incorporate, for example, a greater focus on KT. In the 2005 survey of researchers, when funded researchers were asked what percentage of their research projects can be described as having a significant KT component, a slight majority (58%) indicated that half or more of their research projects include KT activity and 19% reported that between one-quarter and half their projects include a KT component (Figure 10).

The survey of researchers also asked about CIHR's leadership in KT. Overall, 64% of funded researchers indicated that CIHR provides leadership in KT to some extent and 21% stated that leadership is provided to a large extent.

CIHR funds several programs that require decision makers as project team members, such as the Partnership for Health System Improvement. This program had expenditures of \$1.1M in 2006-2007. KT plans are required and assessed and target audiences identified with an overall objective of improving the health-care system and health of Canadians.

Figure 10: Knowledge Translation as a Component of Research Projects

"What percentage of your research projects would you describe as having a significant knowledge translation component?"



Note: Open ended response collapsed into groups reported here;
Bars show the percentage of respondents falling within each group.

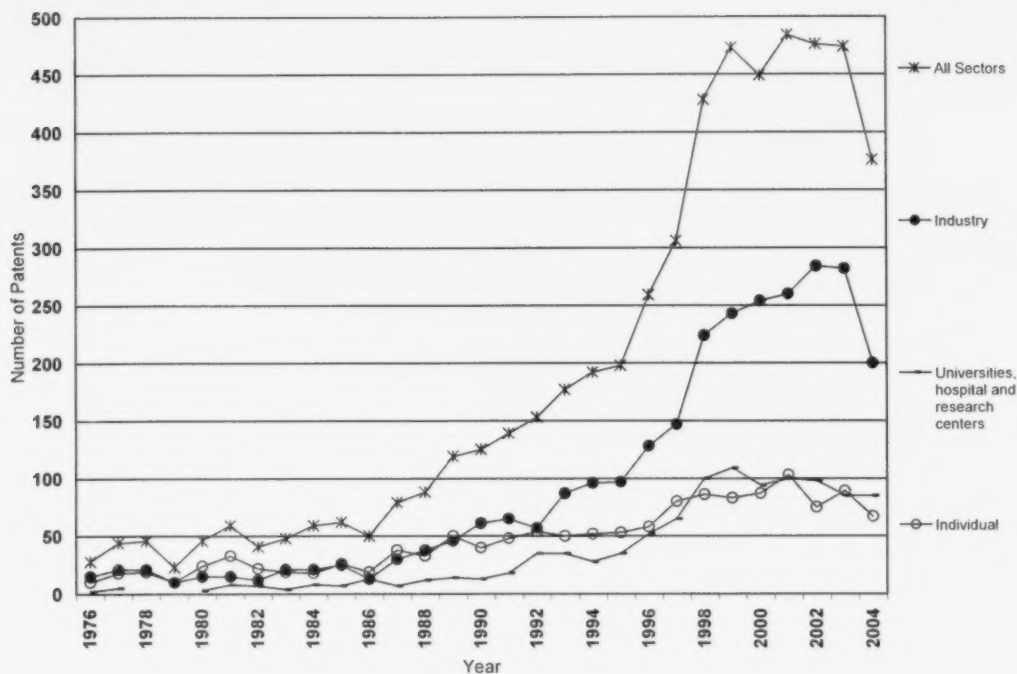
n = 1,676

Source: Survey of Funded Researchers, 2005

2. Number and nature of patents, spin-off companies and licences for intellectual property generated from CIHR-funded research

As shown in Figure 11, between 1985 and 2000, there was rapid growth in the number of Canadian researchers receiving US patents in health sciences. The number of patents stabilized after 2000, but appeared to drop slightly in 2004. This may be due to increased maturity and sophistication of host institution technology transfer activities electing to be more discriminating and investing in only the most promising innovations with commercial potential.

Figure 11: US Health Sector Patents Held by Canadians, by Sector



Source : Observatoire des sciences et des technologies; 25 years of Health Research in Canada: A Bibliometric Analysis, November 2005 (commissioned by CIHR)

Health research leads to new products, companies and jobs. By 2006-2007, federally funded research had led to 128 spin-off companies, 19 of which are publicly traded. Further details on the impacts of specific CIHR funding programs are provided later in this section.

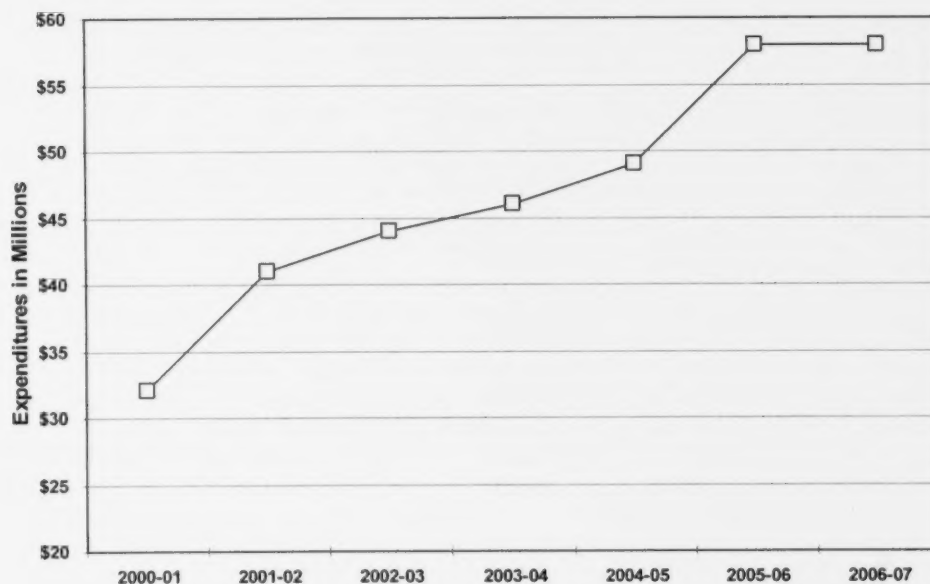
CIHR-Funded Research: Building Canada's Economic Strength

A vaccine that fights *E. coli* in cattle has been authorized for use in Canada by the Canadian Food Inspection Agency. The vaccine was developed by Dr. Brett Finlay of the University of British Columbia and Dr. Andy Potter of the University of Saskatchewan and commercialized by Bioniche Life Sciences Inc., of London, Ontario. By preventing *E. coli* in cattle, the vaccine will also prevent its transmission to humans through meat products.

Transforming Health Research into Action - Grants and Awards Expenditures

Figure 12 summarizes the grants and awards expenditures made by CIHR under Strategic Outcome 3.0 - Transforming Health Research into Action. Expenditures have grown substantially over the last six years, from \$32M in 2000-2001 to \$58M in 2006-2007. The Institutes have strongly supported KT research through strategic initiatives.

Figure 12: Grants and Awards Expenditures – Transforming Health Research into Action



Source: CIHR Funding Database

Note: Includes Networks of Centres of Excellence.

Performance at the Program Activity Level of the MRRS

The following sections describe each of the Program Activities that contribute to Strategic Outcome 3.0 and present the results achieved in 2006-2007.

Program Activity 3.1: Support activities on knowledge translation, exchange, use and strategies to strengthen the health system

Financial Resources (in millions)

Planned Spending	Authorities	Actual Spending
\$40.7	\$40.8	\$35.0

Human Resources

Planned	Actual	Difference
20	18	-2

Expected Results

Effective dissemination, exchange, synthesis and application of research results take place to create new knowledge, strengthen Canadian capacity and networks and, together with our partners, enable effective research and application of health research results.

Indicators

1. Level of activity: number and dollar value of investments.
2. Success of CIHR-funded research programs, including results, awareness and satisfaction levels.

KT is about turning knowledge into action: translating the knowledge gained through health research into improved health for Canadians, more effective services and products and a strengthened health-care system. CIHR's KT strategy for 2004-2009 has four elements:

- Supporting research on KT concepts and processes
- Contributing to building networks of researchers and end-users
- Improving capability to support KT research at CIHR and with partners
- Supporting and recognizing KT excellence

CIHR continued to contribute toward the Networks of Centres of Excellence Program (NCE), in collaboration with Industry Canada and the federal granting councils (NSERC and SSHRC). NCE's are unique partnerships among universities, industry, government, and not-for-profit organizations aimed at turning Canadian research and entrepreneurial talent into economic and social benefits for all Canadians.

Program Activity 3.1 Performance Status: Met Expectations

The following page presents a summary of the performance of selected sub-activities that support the performance status for Program Activity 3.1.

The major activities undertaken in 2006-2007 under each of the four elements of the long-term KT strategy are as follows:

- a) **Support research on KT concepts and processes** – Three annual strategic competitions for KT research have been held, and a peer-review committee for KT research has been established in the open grant competition. As a result, a permanent opportunity now exists to support KT research.
- b) **Contribute to building KT networks of researchers and end users** – Non-government organizations and policy makers have been engaged with CIHR primarily through the Institutes, and the Vice-President of Research on national and international initiatives. The Institute of Health Services and Policy Research (IHSPR) and the KT Branch have led several projects designed to engage producers and users of knowledge, in order to improve policy, programs and practice. The wait times synthesis initiative and the adverse events research initiative are examples of this. The Partnerships for Health Systems Improvement Program is designed to engage decision makers in the research process to ensure effective uptake of the results of those jointly funded research projects. The Institute of Population and Public Health (IPPH) is directly engaged with policy makers by virtue of its Scientific Director being seconded one day per week to embed research thinking into the evolving Public Health Agency of Canada's National Collaborating Centre Program for Public Health and other initiatives.

Café Scientifique

CIHR presented its first-ever Café Scientifique this year. Café Scientifique is a place where, for the price of a cup of coffee or a glass of wine, anyone can come to explore the latest ideas in science and technology. The first Café, held in October 2006 in Ottawa, brought together researchers focusing on our aging brains, our aging bodies and the environments in which we're growing old. A second Café Scientifique, focusing on obesity, was held in March 2007 in conjunction with the Food for Health traveling exhibition, which opened at the Canada Agriculture Museum before embarking on a cross-Canada tour. CIHR is a sponsor of the exhibition.

- c) **Improve capability to support KT research at CIHR and with partners** – The KT Branch funds the production of research syntheses and scoping reviews where it is evident that these will be of use to policy makers, practitioners and other users of health knowledge. CIHR also funds the Canadian Cochrane Network and Centres, one of 12 independent, not-for-profit Cochrane Centres worldwide who contribute to systematic reviews of treatments used in health care. Systematic reviews are a reliable source of evidence to help people make well-informed decisions about health care.
- d) **Support and recognize KT excellence** – At the annual *Canadian Health Research Awards*, CIHR presents an annual KT award to individuals, teams or organizations that make an outstanding contribution to the health of Canadians or to the health system through exemplary knowledge translation.

Program Activity 3.2: Support national efforts to capture the economic value for Canada of health research advances made at Canadian institutions

Financial Resources (in millions)

Planned Spending	Authorities	Actual Spending
\$27.3	\$27.3	\$ 26.7

Human Resources

Planned	Actual	Difference
12	10	-2

Expected Results	Indicators
Implement strategies to enable the effective development and commercialization of health research that will lead to a better quality of life for Canadians through improvements in the Canadian health system, products and economy. As well, plan, launch and manage competitions and programs for grant funds to create and transfer new knowledge, strengthen Canadian capacity and networks and undertake effective commercialization of health research.	<ol style="list-style-type: none"> 1. Level of activity: number and dollar value of investments. 2. Success of CIHR-funded research programs, including results, awareness and satisfaction levels. 3. Number and nature of patents, spin-off companies and licences for intellectual property (IP) generated from CIHR-funded research.

Commercialization is an integral part of CIHR's mandate. CIHR has various funding programs to support the implementation of its Commercialization and Innovation Strategy. The Strategy focuses on the early stages of commercialization, where there is a growing gap between a promising initial concept and its exploitation for health and economic advantage. CIHR's initiatives encourage and better enable universities and teaching hospitals to interact with partners from the public and private sectors that do late-stage development and ultimately deliver the benefits of health research.

The strategy has four components:

1. **Research** – Building the research core to translate discoveries that will strengthen commercialization and the innovation pipeline.
2. **Talent** – Developing the very best Canadian expertise in research, technology transfer, venture capital and business expertise.
3. **Capital** – Facilitating the growth of high-risk small business through development of better-integrated, cohesive and knowledgeable capital.

4. **Linkages** – Facilitating interactions between people and institutions at all stages of the innovation pipeline.

Program Activity 3.2 Performance Status: *Met Expectations*

The following pages present a summary of the performance of selected sub-activities that support the performance status for Program Activity 3.2.

CIHR's commercialization and innovation and industry collaborative programs are designed to encourage and enable the academic community to interact with Canadian companies with an interest in health research and development. These programs promote a wide variety of peer-reviewed research and training opportunities at eligible institutions that are jointly funded by CIHR and Canadian companies. The funding levels of the commercialization and innovation and industry programs are shown in Figures 13 and 14, respectively. The major achievements of some of the main commercialization and innovations programs during 2006-2007 were as follows:

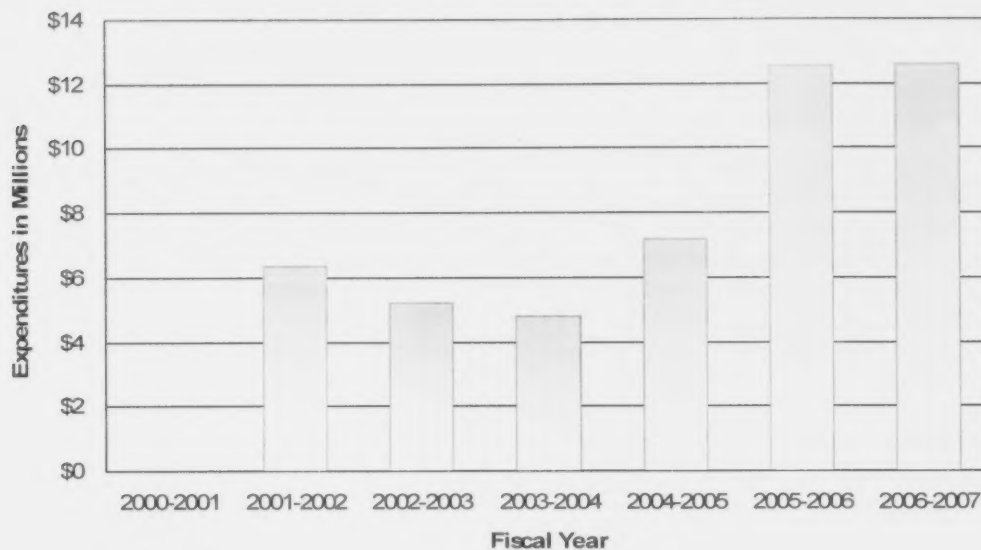
A. *Proof of Principle*

CIHR identified a critical gap in funding at the early stage of commercialization, between the traditional role of granting agencies in supporting discovery research, and demonstration of "proof of principle" for an innovation, at which stage private-sector investment becomes interested. In 2001, CIHR filled this gap with the Proof of Principle (PoP) program, which provides two funding rounds to develop intellectual property with commercializable potential emerging from funded projects. The PoP program works with investigators and institutional technology transfer offices and funds peer-reviewed projects designed to strengthen intellectual property and improve successful identification and commercial development of health research discoveries and innovations. Applications are prepared jointly by the investigators and the institutional Technology Transfer Office, ensuring that the IP has been subjected to an initial technology assessment and selected for its significant commercial potential. To date, over 200 applications and \$25.1M in CIHR commitments have been made through PoP. From the first three years of competition funding, 63% of funded projects resulted in a new patent being filed after receiving PoP funding (49 projects), 21% of funded PoP projects had IP licensed (16 projects), and 14% of funded PoP projects contributed to new company formation (11 projects).

Realizing the economic benefits of CIHR-funded health research

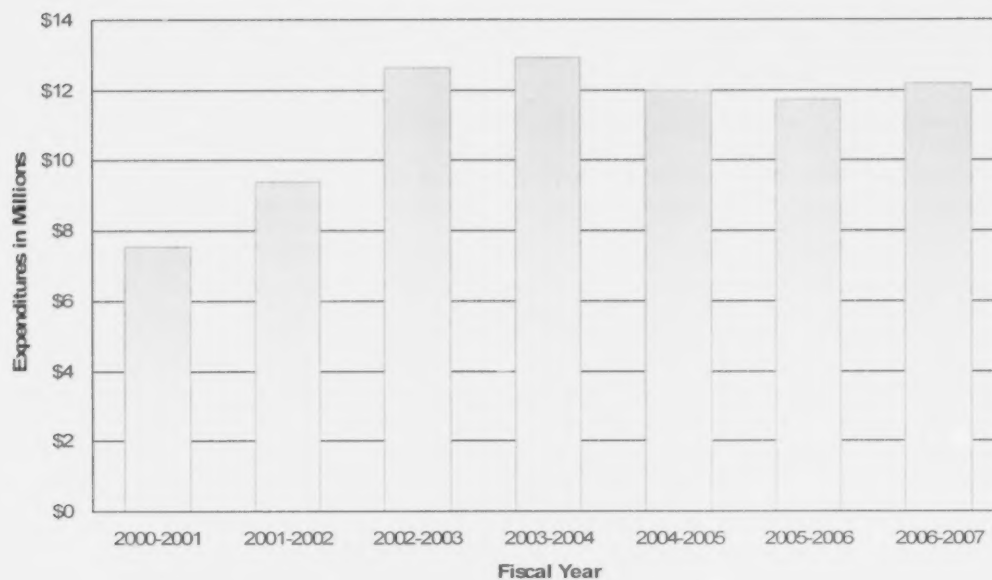
Amorfix Life Sciences Ltd., a Toronto-based company, was nominated as a Technology Pioneer 2007 by the World Economic Forum, the only Canadian company, out of a total of 47 nominees, selected for this year's award. Amorfix builds on the CIHR-funded discoveries of Dr. Neil Cashman of the University of British Columbia and Dr. Marty Lehto of the University of Toronto that will help to diagnose and treat neurodegenerative diseases such as Alzheimer's.

Figure 13: Commercialization Program Expenditures, 2000-2001 to 2006-2007



Source: CIHR Funding Database

Figure 14: Innovation Program Expenditures, 2000-2001 to 2006-2007



Source: CIHR Funding Database

B. CIHR/Rx&D Collaborative Research Program

The CIHR/Rx&D Collaborative Research Program promotes peer-reviewed research and enhances the training and development of health research personnel and opportunities in Canada. The program is an evolution of an existing partnership between the pharmaceutical industry and CIHR's predecessor, the Medical Research Council (MRC), that was originally established in 1993 (Phase 1). In 1999, MRC and Canada's Research-Based Pharmaceutical Companies (Rx&D) renewed the partnership (Phase 2). Many small Canadian biotechnology companies also benefited from and successfully grew under the first two phases of the CIHR/Rx&D Collaborative Research Program.

The agreement between CIHR and Rx&D for the third phase of this program, signed in October 2005, focuses on clinical research. The agreement is intended to enable scientists, clinicians and members of the full spectrum of health professionals to optimize their access to the unique opportunities and advantages offered by the emerging CIHR Clinical Research Initiative (CRI). The collaboration will enable the parties to maximize the impact of clinical and translational research in Canada in order to contribute to the health of Canadians, better delivery of health products and services as well as contribute to the economy of Canada. This realignment was successfully completed in February 2007 with the launching of the Clinical Research Initiative collaborative program with the CFI. The profound impact and contribution of this program to this national effort will be realized in 2007-08 and beyond.

CIHR and its partner organizations have invested over \$150M¹⁸ between 1999-2000 and 2006-2007 for research funded under the CIHR/Rx&D Collaborative Research Program, approximately \$40M of which was contributed by CIHR.

C. CIHR/Small and Medium-Size Enterprise (SME) Program

Under this program, the industrial partner is a small or medium enterprise that is at the heart of the emerging biopharmaceutical industry in Canada. Eligible participants are not members of Rx&D. As with the CIHR/Rx&D Collaborative Research Program, the program supports a wide range of grants and awards, with fixed funding matches between CIHR's and the company's contribution to the costs of a research grant or award. Eligible participants may participate within and/or outside the Clinical Research Initiative.

* * *

Risks and Challenges – Strategic Outcome 3.0

In delivering results related to Strategic Outcome 3.0, Transforming Health Research into Action, CIHR is challenged by the need to work with the multitude of players involved in the process of innovation and the relative shortage of Canadians specialized in knowledge translation. The risk of inadequately addressing these challenges is that Canadians would not benefit as fully or as quickly as they should from the new knowledge produced through research. Other challenges include: influencing the use of research by end users is complex

¹⁸ Currently, these figures represent only partner funds administered by CIHR. As in-kind partner contributions can not accurately be validated and that partner funds not administered by CIHR are not included, partner contributions are likely understated.

and can be a long process; there are insufficient resources and effort devoted to KT compared to knowledge generation (investigator-framed) activities; and there is a lack of capacity in KT researchers and knowledge brokers.

CIHR is responding to these challenges and risks through:

- producing and disseminating reports that synthesize research findings and convening symposia that bring researchers and policy makers together;
- promoting funding opportunities that encourage or require collaboration between decision maker stakeholders and researchers to ensure highly relevant and applied research is conducted in priority areas;
- recognizing dissemination activities in its evaluation processes for grants and awards, for example, by beginning to require that plans for dissemination and exchange of research findings be components of applications for funding;
- increasing support for programs that have a strong KT component, i.e., a direct application to health practices, policies or commercialization of health research findings; and
- supporting research advancing the science of knowledge translation.

SECTION III: SUPPLEMENTARY INFORMATION

Notes:

Wherever "actual" expenditures are referred to in Tables on the following pages, it should be noted that the actual expenditures are prepared on a cash basis to compare with Parliamentary Appropriations which are cash basis budgets. Hence, the actual expenditures will not tie in with the Statements of Operations and Net Assets of the audited financial statements which are prepared on an accrual basis.

Table 1: Comparison of Planned to Actual Spending (including FTEs)

(\$ millions)	2004-05 Actual	2005-06 Actual	2006-07			
			Main Estimates	Planned Spending	Total Authorities	Total Actuals
Fund Health Research	436.8	466.5	444.6	469.4	472.4	499.5
Fund Health Researchers and Trainees	162.7	178.3	217.5	217.7	218.1	190.4
Fund Research Resources, Collaboration and Other Grants to Strengthen the Health Research Community	69.0	70.0	68.2	73.2	70.4	66.2
Develop and Support Strong Health Research Community through National and International Alliances and Priority-Setting	24.6	23.4	28.1	28.2	28.1	23.3
Inform Research, Clinical Practice and Public Policy on Ethical, Legal and Social Issues Related to Health and Health Research	2.7	1.9	6.3	6.3	6.3	2.2
Support Activities on Knowledge Translation, Exchange, Use and Strategies to Strengthen the Health System	31.8	35.4	40.7	40.7	40.8	35.0
Support National Efforts to Capture the Economic Value for Canada of Health Research Advances made at Canadian Institutions	20.4	25.4	27.3	27.3	27.3	26.7
Total	748.0	800.9	832.7	862.8	863.4	843.3
Less: Non-responsible revenue	3.4	4.1	N/A	2.8	N/A	2.4
Plus: Cost of services received without charge	4.2	4.8	N/A	5.4	N/A	5.2
Total Departmental Spending	748.8	801.6	N/A	865.4	N/A	846.1
Full-time Equivalents	282	324	390	390	390	347

Table 2: Resources by Program Activity

(\$ millions)	2006-2007					
Program Activity	Operating	Grants	Total: Gross Budgetary Expenditures	Total: Net Budgetary Expenditures	Loans, Investments, and Advances	Total
Fund Health Research						
Main Estimates	23.2	421.4	444.6	444.6	0.0	444.6
<i>Planned Spending</i>	23.8	445.6	469.4	469.4	0.0	469.4
Total Authorities	24.2	448.2	472.4	472.4	0.0	472.4
<i>Actual Spending</i>	23.1	476.4	499.5	499.5	0.0	499.5
Fund Health Researchers and Trainees						
Main Estimates	8.5	209.0	217.5	217.5	0.0	217.5
<i>Planned Spending</i>	8.7	209.0	217.7	217.7	0.0	217.7
Total Authorities	8.8	209.3	218.1	218.1	0.0	218.1
<i>Actual Spending</i>	11.7	178.7	190.4	190.4	0.0	190.4
Fund Research Resources, Collaboration and other Grants to Strengthen the Health Research Community						
Main Estimates	2.7	65.5	68.2	68.2	0.0	68.2
<i>Planned Spending</i>	2.8	70.4	73.2	73.2	0.0	73.2
Total Authorities	2.6	67.8	70.4	70.4	0.0	70.4
<i>Actual Spending</i>	3.5	62.7	66.2	66.2	0.0	66.2
Develop and Support Strong Health Research Community through National and International Alliances and Priority-Setting						
Main Estimates	4.3	23.8	28.1	28.1	0.0	28.1
<i>Planned Spending</i>	4.4	23.8	28.2	28.2	0.0	28.2
Total Authorities	4.3	23.8	28.1	28.1	0.0	28.1
<i>Actual Spending</i>	1.3	22.0	23.3	23.3	0.0	23.3

Inform Research, Clinical Practice and Public Policy on Ethical, Legal and Social Issues Related to Health and Health Research						
Main Estimates	2.5	3.8	6.3	6.3	0.0	6.3
<i>Planned Spending</i>	2.5	3.8	6.3	6.3	0.0	6.3
Total Authorities	2.5	3.8	6.3	6.3	0.0	6.3
<i>Actual Spending</i>	0.5	1.7	2.2	2.2	0.0	2.2
Support Activities on Knowledge Translation, Exchange, Use and Strategies to Strengthen the Health System						
Main Estimates	3.0	37.7	40.7	40.7	0.0	40.7
<i>Planned Spending</i>	3.0	37.7	40.7	40.7	0.0	40.7
Total Authorities	3.1	37.7	40.8	40.8	0.0	40.8
<i>Actual Spending</i>	2.2	32.8	35.0	35.0	0.0	35.0
Support National Efforts to Capture the Economic Value for Canada of Health Research Advances made at Canadian Institutions						
Main Estimates	1.7	25.6	27.3	27.3	0.0	27.3
<i>Planned Spending</i>	1.7	25.6	27.3	27.3	0.0	27.3
Total Authorities	1.7	25.6	27.3	27.3	0.0	27.3
<i>Actual Spending</i>	1.3	25.4	26.7	26.7	0.0	26.7

Table 2 compares actual spending by CIHR in millions of dollars versus spending authorized by the Treasury Board of Canada and planned CIHR spending. The variance in Operating Expenses resulted primarily from staffing delays and higher than average employee turnover. Please note that CIHR is able to carry forward up to 5% of its operating budget from one fiscal year to the next fiscal year. This means that \$2.1 million of the \$3.7 million lapse in the operating budget will be carried forward and so increase the 2007-08 fiscal year operating budget. The lapsed funds for 2006-07 for Vote 20 (Grants) resulted almost entirely from the Canada Research Chairs Program being under spent by \$16.4 million. This variance resulted directly from difficulties encountered by the Universities in filling the Chairs. CIHR Management has determined that no financial impact will result in future fiscal years from this lapse.

Table 3: Voted and Statutory Items

(\$ millions)

Vote or Statutory Item	Truncated Vote or Statutory Wording	2006-2007			
		Main Estimates	Planned Spending	Total Authorities	Total Actuals
15	Operating expenditures	41.3	42.3	43.0	39.4
20	Grants	786.8	815.9	816.2	799.7
(S)	Contributions to employee benefit plans	4.6	4.6	4.2	4.2
	Total	832.7	862.8	863.4	843.3

Table 4: Services Provided Without Charge

(\$ millions)	2006-2007 Actual Spending
Accommodation provided by Public Works and Government Services Canada	3.3
Contributions covering the employer's share of employees' insurance premiums and expenditures paid by the Treasury Board of Canada Secretariat (excluding revolving funds); employer's contribution to employees' insured benefits plans and associated expenditures paid by the Treasury Board of Canada Secretariat	1.8
Audit services provided by the Office of the Auditor General of Canada	0.1
Total 2006-07 Services received without charge	5.2

Table 5: Sources of Non-Respendable Revenue

(\$ millions)	Actual 2004-05	Actual 2005-06	2006-2007			
			Main Estimates	Planned Revenue	Total Authorities	Actual
Fund health research						
Refunds of Previous Years' Expenditures	1.8	2.2	N/A	1.5	N/A	1.3
Fund health researchers and trainees						
Refunds of Previous Years' Expenditures	0.9	1.1	N/A	0.8	N/A	0.6
Fund research resources, collaboration and other grants to strengthen the health research community						
Refunds of Previous Years' Expenditures	0.3	0.3	N/A	0.2	N/A	0.2
Develop and support strong health research community through national and international alliances and priority-settings						
Refunds of Previous Years' Expenditures	0.1	0.1	N/A	0.1	N/A	0.1
Inform research, clinical practice and public policy on ethical, legal and social issues (ELSI) related to health and health research						
Refunds of Previous Years' Expenditures	0.0	0.1	N/A	0.0	N/A	0.0
Support activities on knowledge translation, exchange, use and strategies to strengthen the health system						
Refunds of Previous Years' Expenditures	0.2	0.2	N/A	0.1	N/A	0.1
Support national efforts to capture the economic value for Canada of health research advances made at Canadian institutions						
Refunds of Previous Years' Expenditures	0.1	0.1	N/A	0.1	N/A	0.1
Total Non-Respendable Revenue	3.4	4.1	N/A	2.8	N/A	2.4

Table 5 - Refunds of previous years' expenses include the return of grants and awards funds to CIHR in the current fiscal year for expenses incurred in previous fiscal years due to cancellations; refunds of previous years' expenses related to goods or services; and adjustments of previous years' accounts payable. These refunds and adjustments are recorded as expenses in the financial statements but are recorded as revenue on an appropriation basis and therefore are excluded when determining current year appropriations used.

Table 6: Response to Parliamentary Committees, Audits and Evaluations

Response to Parliamentary Committees
<p>Fetal Alcohol Spectrum Disorder</p> <p>The Health Committee's report on FASD (<i>New Strategy for the Prevention of FASD</i>) was tabled September 16, 2006. http://cmte.parl.gc.ca/cmte/CommitteePublication.aspx?COM=10481&Lang=1&SourceId=188751</p> <p>The report made four recommendations including a recommendation that Health Canada (HC) be mandated to lead on a comprehensive FASD action plan, placed within a larger alcohol strategy, that HC report annually on the status of FASD activities, that HC collect data on the incidence and prevalence of FASD so that future investments can be made based on evidence of need and that HC put in place measures to evaluate the effectiveness of the action plan and the return on investment.</p> <p>The Government response, entitled, <i>Government Response to the Second Report of the Standing Committee of Health Even One is Too Many: A Call for a Comprehensive Action Plan on Fetal Alcohol Spectrum Disorder</i>, was tabled January 17, 2007. The Response reported on the actions of the Government to date and future directions as guided by the five themes of the <i>FASD: A Framework for Action</i> of 2003: 1. increasing awareness; 2. increasing capacity; 3. creating tools; 4. expanding knowledge; and 5. supporting action.</p> <p>The Government response can be found at http://www.phac-aspc.gc.ca/fasd-etcaf/govresfasd-resgovetcaf_e.html</p> <p>Childhood Obesity</p> <p>The Health Committee tabled its report on childhood obesity, <i>Healthy Weights for Healthy Kids</i> on March 27, 2007 in the House of Commons. http://cmte.parl.gc.ca/cmte/CommitteePublication.aspx?COM=10481&Lang=1&SourceId=199309 The Report included 13 recommendations focusing on targets to halt the rise in child obesity, to public awareness, data collection, knowledge exchange and establishment of a lead department for interdepartmental action. Recommendation seven focused on research, specifically recommending that research capacity across the determinants related to healthy weights be increased, that it focus on both physical activity and healthy foods, that research efforts not be limited to federal departments and agencies and that research on determinants of health for First Nations, Inuit and Métis children be undertaken.</p> <p>The Government response to the Committee's report must be tabled by August 22, 2007.</p>
Response to the Auditor General of Canada
There were no Responses to the Auditor General of Canada in 2006-2007.

External Audits
There were no External Audits in 2006-2007.
Internal Audits
Two carry-forward internal audits from 2005-06 were completed in this fiscal year, the Audit of Records and Information Management, July 2006, http://www.cihr-irsc.gc.ca/e/32833.html , and the Audit of Official Languages, June 2006, http://www.cihr-irsc.gc.ca/e/32660.html . Internal audits reported in the RPP for 2006-07 have been carried forward to 2007-08 because the Internal Audit function experienced a shortage of executive and staff during the year. The function has since been fully resourced for 2007-08.
Internal Evaluations
External Review of CIHR. Completed in June 2006, an international panel made 14 observations based on their assessment of CIHR and each of the 13 Institutes. The report is on the CIHR website at http://www.cihr-irsc.gc.ca/e/31464.html#b . The start of the evaluation of the Strategic Training Initiative in Health Research was delayed. The final report will be available by March 31, 2008. Evaluation Framework for the Canada Graduate Scholarships Program was completed and will be used to launch an evaluation of the program in fiscal 2007-2008. Evaluation Framework for the Operating Grants Program has been postponed to fiscal 2007-2008. Evaluation Framework for the CIHR/Rx&D program. A results-based management and accountability framework was completed. On this basis, program management will undertake performance monitoring activities. An integrated RMAF/RBAF for CIHR grant programs was created to support relevant Treasury Board activities/submissions.

Table 7: Crosswalk Between Performance Indicators Used in 2006-2007 RPP and 2006-2007 DPR

Program Activity and Expected Results	Performance Indicators Used in 2006-2007 RPP	Performance Indicators Used in 2006-2007 DPR
<p>1.1: Funding health research</p> <p>Effective and efficient funding programs that enable ethical health research creating health knowledge that responds to opportunities and priorities.</p>	<p>1. Success of CIHR-funded research programs, including results, awareness and satisfaction levels</p> <p>2. Extent to which Institutes have appropriately influenced the research, policy and/or practice agendas in their communities</p>	<p>1. Level of activity: number and dollar value of investments</p> <p>2. Success of CIHR-funded research programs, including results, awareness and satisfaction levels</p> <p>3. Extent to which Institutes have appropriately influenced the research, policy and/or practice agendas in their communities</p>
<p>2.1: Fund health researchers and trainees</p> <p>Effective and efficient funding programs that ensure a supply of highly trained health researchers and trainees are available to conduct outstanding research</p>	<p>1. Success of CIHR-funded salary and training programs, including results, awareness and satisfaction levels</p> <p>2. Level and success of Institute activity in creating opportunities for capacity development based on successful initial and ongoing identification and targeting of research domains in need of capacity development</p>	<p>1. Level of activity: number and dollar value of investments</p> <p>2. Success of CIHR-funded salary and training programs, including results, awareness and satisfaction levels</p>
<p>2.2: Fund research resources, collaboration and other grants to strengthen the health research community</p> <p>Effective and efficient partnerships and funding programs that lead to a dynamic research environment and outstanding research</p>	<p>1. Success of CIHR-funded research resources and collaboration programs, including results, awareness and satisfaction levels</p> <p>2. Expenditure levels and distribution</p> <p>3. Level of Institute leadership, activity and success in strengthening research infrastructure/environment</p>	<p>1. Level of activity: number and dollar value of investments</p> <p>2. Success of CIHR-funded research resources and collaboration programs, including results, awareness and satisfaction levels</p>
<p>2.3: Develop and support a strong health research community through national and international alliances and</p>	<p>1. Success of CIHR-funded partnership research programs, including results, awareness and satisfaction levels</p>	<p>1. Level of activity: number and dollar value of investments</p> <p>2. Success of CIHR-funded partnership research programs,</p>

Program Activity and Expected Results	Performance Indicators Used in 2006-2007 RPP	Performance Indicators Used in 2006-2007 DPR
<p>priority-setting</p> <p>National and international research agendas are formulated and implemented.</p>	<p>2. Number, diversity and scope of linkages, exchanges, alliances and partnerships with other organizations including health policy-makers at all levels of government (especially provincial governments) compared to baseline. Includes willingness of stakeholders to support research in Institute domains and number and size of funding flows through jointly-funded partnership programs where relevant</p>	<p>including results, awareness and satisfaction levels</p>
<p>2.4: Inform research, clinical practice and public policy on ethical, legal and social issues (ELSI) related to health and health research</p> <p>Uptake and application of ethics knowledge as an integral part of decision-making in health practice, research and policy</p>	<p>1. Success of CIHR's ELSI activities, for example, changes in the number of ethics-related incidents that arise from health practice, research, and policies</p> <p>2. Number of publications resulting from ELSI research</p> <p>3. Number of public policies influenced by ELSI principles</p> <p>4. Opinions of health researchers, and policy-makers regarding their success in uptake and application of ethical knowledge</p>	<p>1. Level of activity: number and dollar value of investments</p> <p>2. Success of CIHR ELSI activities, including results, awareness and satisfaction levels</p>
<p>3.1: Support activities on knowledge translation, exchange, use and strategies to strengthen the health system</p> <p>Effective dissemination, exchange, synthesis and application of research results take place to create new knowledge, strengthen Canadian capacity and networks and, together with our partners, enable effective research and application of health research results</p>	<p>1. Success of CIHR-funded research programs, including results, awareness and satisfaction levels</p> <p>2. Increased number, scope and diversity of knowledge translation activities supported by CIHR (and its partners where relevant) or resulting from CIHR activities (for example, synthesis papers, briefs, participation in policy task forces) compared to baseline</p> <p>3. Identification of and initial</p>	<p>1. Level of activity: number and dollar value of investments</p> <p>2. Success of CIHR-funded research programs, including results, awareness and satisfaction levels</p>

Program Activity and Expected Results	Performance Indicators Used in 2006-2007 RPP	Performance Indicators Used in 2006-2007 DPR
	communication with key knowledge translation stakeholders, followed by increased number of inputs (driven by research evidence) to stakeholders' decision processes	
<p>3.2: Support national efforts to capture the economic value for Canada of health research advances made at Canadian institutions</p> <p>Implement strategies to enable the effective development and commercialization of health research that will lead to a better quality of life for Canadians through improvements in the Canadian health system, products and economy. As well, plan, launch and manage competitions and programs for grant funds to create and transfer new knowledge, strengthen Canadian capacity and networks and undertake effective commercialization of health research</p>	<p>1. Success of CIHR-funded research programs, including results, awareness and satisfaction levels</p> <p>2. Number and nature of patents, spin-off companies and licences for intellectual property (IP) generated from CIHR-funded research</p>	<p>1. Level of activity: number and dollar value of investments</p> <p>2. Success of CIHR-funded research programs, including results, awareness and satisfaction levels.</p> <p>3. Number and nature of patents, spin-off companies and licences for intellectual property (IP) generated from CIHR-funded research.</p>

Table 8: Financial Statements

Canadian Institutes of Health Research MANAGEMENT RESPONSIBILITY FOR FINANCIAL STATEMENTS

Responsibility for the integrity and objectivity of the accompanying financial statements of the Canadian Institutes of Health Research (CIHR) for the year ended March 31, 2007 and all information contained in these statements rests with CIHR's management. These financial statements have been prepared by management in accordance with Treasury Board accounting policies and year-end instructions issued by the Office of the Comptroller General, which are consistent with Canadian generally accepted accounting principles for the public sector.

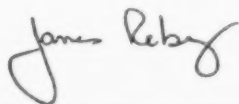
Management is responsible for the integrity and objectivity of the information in these financial statements. Some of the information in the financial statements is based on management's best estimates and judgement and gives due consideration to materiality. To fulfil its accounting and reporting responsibilities, management maintains a set of accounts that provides a centralized record of CIHR's financial transactions. Financial information submitted to the *Public Accounts of Canada* and included in CIHR's *Departmental Performance Report* is consistent with these financial statements.

Management maintains a system of financial management and internal control designed to provide reasonable assurance that financial information is reliable, that assets are safeguarded and that transactions are in accordance with the *Financial Administration Act*, are executed in accordance with prescribed regulations, within Parliamentary authorities, and are properly recorded to maintain accountability of Government funds. Management also seeks to ensure the objectivity and integrity of data in its financial statements by careful selection, training and development of qualified staff, by organizational arrangements that provide appropriate divisions of responsibility and by communications programs aimed at ensuring that regulations, policies, standards and managerial authorities are understood throughout the organization.

The Standing Committee on Performance Measurement, Evaluation and Audit, appointed by the Governing Council of CIHR, has reviewed these statements with management and the auditors, and has reported to the Governing Council. The Governing Council has approved the financial statements.

The financial statements of CIHR have been audited by the Auditor General of Canada, the independent auditor for the Government of Canada.

Approved by:



James Roberge, CMA
Chief Financial Officer



Dr. Alan Bernstein, O.C., FRSC
President

June 1, 2007



AUDITOR'S REPORT

To the Canadian Institutes of Health Research
and the Minister of Health

I have audited the statement of financial position of the Canadian Institutes of Health Research (CIHR) as at March 31, 2007 and the statements of operations, equity and cash flow for the year then ended. These financial statements are the responsibility of CIHR's management. My responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with Canadian generally accepted auditing standards. Those standards require that I plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In my opinion, these financial statements present fairly, in all material respects, the financial position of CIHR as at March 31, 2007 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

Nancy Y. Cheng, FCA
Assistant Auditor General
for the Auditor General of Canada

Ottawa, Canada
June 1, 2007

Canadian Institutes of Health Research

STATEMENT OF OPERATIONS

FOR THE YEAR ENDED MARCH 31

(in thousands of dollars)

	2007	2006
EXPENSES (Note 4)		
Health research	511,042	475,620
Health researchers in innovative environments	284,348	275,206
Transforming health research into action	62,421	61,674
TOTAL EXPENSES	857,811	812,500
REVENUES (Note 5)		
Health research	6,319	6,264
Health researchers in innovative environments	3,516	3,624
Transforming health research into action	772	812
TOTAL REVENUES	10,607	10,700
NET COST OF OPERATIONS	847,204	801,800

The accompanying notes are an integral part of these financial statements.

Canadian Institutes of Health Research
STATEMENT OF FINANCIAL POSITION
AS AT MARCH 31
(in thousands of dollars)

	2007	2006
ASSETS		
Financial Assets		
Due from the Consolidated Revenue Fund	15,751	18,640
Accounts receivable:		
Other Federal Government departments	678	367
External parties	395	353
Advances	196	191
Total financial assets	17,020	19,551
Non-financial assets		
Prepaid expenses	445	542
Tangible capital assets (Note 6)	3,904	4,049
Total non-financial assets	4,349	4,591
TOTAL ASSETS	21,369	24,142
 LIABILITIES		
Accounts payable and accrued liabilities		
Other Federal Government departments	444	381
External parties	2,577	3,913
Vacation pay and compensatory leave	1,110	910
Deferred revenue (Note 7)	12,730	14,346
Employee severance benefits (Note 8)	5,248	4,633
TOTAL LIABILITIES	22,109	24,183
EQUITY OF CANADA	(740)	(41)
TOTAL LIABILITIES AND EQUITY OF CANADA	21,369	24,142

Contingent liabilities (Note 9)
Contractual obligations (Note 10)

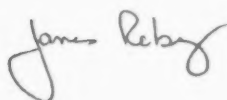
The accompanying notes are an integral part of these financial statements.

Approved by Governing Council:



Dr. Alan Bernstein, O.C., FRSC
Chair

Approved by Management:



James Roberge, CMA
Chief Financial Officer

Canadian Institutes of Health Research

STATEMENT OF EQUITY

FOR THE YEAR ENDED MARCH 31

(in thousands of dollars)

	<u>2007</u>	<u>2006</u>
EQUITY OF CANADA, BEGINNING OF YEAR	(41)	273
Net cost of operations	(847,204)	(801,800)
Net cash provided by Government	844,170	790,458
Change in due from the Consolidated Revenue Fund	(2,889)	6,223
Services provided without charge by other Government departments (Note 11)	<u>5,224</u>	<u>4,805</u>
EQUITY OF CANADA, END OF YEAR	<u>(740)</u>	<u>(41)</u>

The accompanying notes are an integral part of these financial statements.

Canadian Institutes of Health Research
STATEMENT OF CASH FLOW
FOR THE YEAR ENDED MARCH 31
(in thousands of dollars)

	<u>2007</u>	<u>2006</u>
OPERATING ACTIVITIES		
Net cost of operations	847,204	801,800
Non-cash items:		
Amortization of tangible capital assets	(1,498)	(1,376)
Services provided without charge by other Government departments	(5,224)	(4,805)
Gain on disposal of capital assets	4	-
	<u>(6,718)</u>	<u>(6,181)</u>
Variations in Statement of Financial Position:		
Increase (decrease) in accounts receivable and advances	358	(124)
(Decrease) increase in prepaid expenses	(97)	342
Decrease (increase) in liabilities	<u>2,074</u>	<u>(6,856)</u>
	<u>2,335</u>	<u>(6,638)</u>
Cash Used by Operating Activities	<u>842,821</u>	<u>788,981</u>
CAPITAL INVESTMENT ACTIVITIES		
Acquisitions of tangible capital assets	1,358	1,477
Proceeds on disposal of capital assets	<u>(9)</u>	<u>-</u>
Cash Used by Capital Investment Activities	<u>1,349</u>	<u>1,477</u>
FINANCING ACTIVITIES		
NET CASH PROVIDED BY GOVERNMENT OF CANADA	<u><u>844,170</u></u>	<u><u>790,458</u></u>

The accompanying notes are an integral part of these financial statements.

Canadian Institutes of Health Research
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED MARCH 31, 2007

1. Authority and Objectives

The Canadian Institutes of Health Research (CIHR) was established in June 2000 under the *Canadian Institutes of Health Research Act*, replacing the former Medical Research Council of Canada. It is listed in Schedule II to the *Financial Administration Act* as a departmental corporation.

CIHR's objective is to excel, according to international standards of scientific excellence, in the creation of new knowledge, and its translation into improved health, more effective health services and products, and a strengthened Canadian health care system. CIHR achieves these objectives through three strategic outcomes. The first strategic outcome is outstanding research, achieved by funding excellent and ethical health research across all disciplines that are relevant to health. The second strategic outcome is outstanding researchers in innovative environments, achieved by providing funding to develop and sustain health researchers in vibrant, innovative and stable research environments. The third strategic outcome is transforming health research into action, achieved by CIHR's knowledge translation activities and funding aimed to accelerate the transformation of research results into health benefits for Canadians and an improved health care system as well as helping to move new research breakthroughs toward potential commercial applications.

CIHR is led by a President who is the Chairperson of a Governing Council of not more than nineteen other members appointed by the Governor in Council. The Governing Council sets overall strategic direction, goals and policies and oversees programming, resource allocation, ethics, finances, planning and accountability.

CIHR has thirteen Institutes that focus on identifying the research needs and priorities for specific health areas, or for specific populations, then developing strategic initiatives to address those needs. Each Institute is led by a Scientific Director who is guided by an Institute Advisory Board, which strives to include representation of the public, researcher communities, research funders, health professionals, health policy specialists and other users of research results.

CIHR's grants, awards, and operating expenditures are funded by budgetary lapsing authorities. Employee benefits are funded by statutory authorities.

2. Significant Accounting Policies

These financial statements have been prepared in accordance with Treasury Board accounting policies and year-end instructions issued by the Office of the Comptroller General, which are consistent with Canadian generally accepted accounting principles for the public sector. The most significant accounting policies are as follows:

- (a) **Parliamentary appropriations** - CIHR is financed by the Government of Canada through Parliamentary appropriations. Appropriations provided to CIHR do not parallel financial reporting according to generally accepted accounting principles since appropriations are primarily based on cash flow requirements. Consequently, items recognized in the statement of operations and the statement of financial position are not necessarily the same as those provided through appropriations from Parliament. Note 3 provides a high-level reconciliation between the bases of reporting.
- (b) **Net cash provided by government** - CIHR operates within the Consolidated Revenue Fund (CRF), which is administered by the Receiver General for Canada. All cash received by CIHR is deposited to the CRF and all cash disbursements made by CIHR are paid from the CRF. The net cash provided by Government is the difference between all cash receipts and all cash disbursements including transactions between departments of the Federal Government.
- (c) **Due from the Consolidated Revenue Fund** represents the amount of cash that CIHR is entitled to draw from the Consolidated Revenue Fund without further appropriations, in order to discharge its liabilities.

(d) Revenues

- Funds received from external parties for specified purposes are recorded upon receipt as deferred revenues. These revenues are recognized in the period in which the related expenses are incurred.
- Other revenues are accounted for in the period in which the underlying transaction or event occurred that gave rise to the revenues.

(e) Expenses – Expenses are recorded on the accrual basis:

- Grants and awards are recognized when the entitlement has been established, the recipient has met the eligibility criteria, and program authority exists.
- Vacation pay and compensatory leave are expensed as the benefits accrue to employees under their respective terms of employment.
- Services provided without charge by other government departments are recorded as operating expenses at their estimated cost.

(f) Refunds of previous years' expenses - These amounts include the return of grants and awards funds to CIHR in the current fiscal year for expenses incurred in previous fiscal years due to cancellations; refunds of previous years' expenses related to goods or services; and adjustments of previous years' accounts payable. These refunds and adjustments are recorded as expenses in the financial statements but are recorded as revenue on an appropriation basis and therefore are excluded when determining current year appropriations used.

(g) Employee future benefits

- i. Pension benefits: Eligible employees participate in the Public Service Pension Plan, a multiemployer plan administered by the Government of Canada. CIHR's contributions to the Plan are charged to expenses in the year incurred and represent the total obligation of CIHR to the Plan. Current legislation does not require CIHR to make contributions for any actuarial deficiencies of the Plan.
- ii. Severance benefits: Employees are entitled to severance benefits under labour contracts or conditions of employment. These benefits are accrued as employees render the services necessary to earn them. The obligation relating to the benefits earned by employees is calculated using information derived from the results of the actuarially determined liability for employee severance benefits for the Government as a whole.

(h) Accounts receivable - These are stated at amounts expected to be ultimately realized. A provision for doubtful accounts is made for any amounts where recovery is considered uncertain.

(i) Contingent liabilities - Contingent liabilities are potential liabilities which may become actual liabilities when one or more future events occur or fail to occur. To the extent that the future event is likely to occur or fail to occur, and a reasonable estimate of the loss can be made, an estimated liability is accrued and an expense is recorded. If the likelihood is not determinable or an amount cannot be reasonably estimated, the contingency is disclosed in the notes to the financial statements.

(j) Tangible capital assets - All tangible capital assets having an individual initial cost of \$5,000 or more are recorded at their acquisition cost. Amortization of tangible capital assets is done on a straight-line basis over the estimated useful life of the capital asset as follows:

Asset class	Amortization period
Informatics hardware	3-5 years
Informatics software	3 years
Office equipment	10 years
Motor vehicles	5 years

Amounts included in work-in-progress are uncompleted capital projects which are transferred to informatics software upon completion, and are then amortized according to CIHR's policy.

(k) Measurement uncertainty - The preparation of these financial statements in accordance with Treasury Board accounting policies and year-end instructions issued by the Office of the Comptroller General, which are consistent with Canadian generally accepted accounting principles for the public sector, requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses reported in the financial statements. At the time of preparation of these statements, management believes the estimates and assumptions to be reasonable. The most significant items where estimates are used are contingent liabilities, the liability for vacation pay and compensatory leave, employee severance benefits and the useful life of tangible capital assets. Actual results could differ significantly from those estimated. Management's estimates are reviewed periodically and, as adjustments become necessary, they are recorded in the financial statements in the year they become known.

3. Parliamentary Appropriations

CIHR receives most of its funding through annual parliamentary appropriations. Items recognized in the statement of operations and the statement of financial position in one year may be funded through parliamentary appropriations in prior, current or future years. Accordingly, CIHR has different net results of operations for the year on a government funding basis than on an accrual accounting basis. The differences are reconciled in the following tables:

(a) Reconciliation of net cost of operations to current year appropriations used

	2007	2006
	(in thousands of dollars)	(in thousands of dollars)
Net cost of operations	847,204	801,800
Adjustments for items affecting net cost of operations but not affecting appropriations:		
Add (Less):		
Services provided without charge	(5,224)	(4,805)
Gain on disposal of capital assets	4	-
Refunds of previous years' expenses	2,432	4,132
Employee severance benefits	(615)	(807)
Amortization of tangible capital assets	(1,498)	(1,376)
Vacation pay and compensatory leave	(200)	174
Other adjustments	(94)	(61)
	(5,195)	(2,743)
Adjustments for items not affecting net cost of operations but affecting appropriations		
Add (Less):		
Acquisitions of tangible capital assets	1,358	1,477
Prepaid expenses	(97)	342
Current year appropriations used	843,270	800,876

(b) Appropriations provided and used

	2007	2006
	(in thousands of dollars)	(in thousands of dollars)
Parliamentary appropriations provided:		
Vote 15 – Operating expenditures	43,021	39,902
Less:		
Lapsed appropriation	(3,657)	(1,393)
	39,364	38,509
Vote 20 – Grants	816,183	768,980
Less:		
Lapsed appropriation	(16,536)	(10,832)
	799,647	758,148
Statutory contributions to employee benefit plans	4,259	4,219
Current year appropriations used	843,270	800,876

(c) Reconciliation of net cash provided by Government to Parliamentary appropriations used

	2007	2006
	(in thousands of dollars)	
Net cash provided by Government	844,170	790,458
Refunds of previous years' expenses	2,432	4,132
Cash proceeds on disposal of capital assets	9	-
Change in net position in the Consolidated Revenue Fund		
Variation in accounts receivable and advances	(358)	124
Variation in accounts payable and accrued liabilities	(1,273)	976
Variation in deferred revenue	(1,616)	5,247
Other adjustments	(94)	(61)
	<u>(3,341)</u>	<u>6,286</u>
 Current year appropriations used	 <u>843,270</u>	 <u>800,876</u>

4. Expenses

	2007	2006
	(in thousands of dollars)	
Grants and awards		
Open competitions	487,917	478,109
Strategic initiatives	195,762	171,878
Institute support grants	13,000	13,000
Knowledge translation	3,864	5,458
Canada research chairs	82,205	72,900
Networks of centres of excellence	27,500	27,500
Total grants and awards	810,248	768,845
Less: Refunds of previous years' grants and awards	<u>(1,972)</u>	<u>(3,777)</u>
	808,276	765,068
Operations and administration		
Salaries and employee benefits	31,683	29,594
Professional and special services	4,845	6,184
Travel	3,425	3,957
Accommodation	3,314	2,865
Furniture, equipment and software	1,998	1,185
Amortization of tangible capital assets	1,498	1,376
Communication	1,450	1,308
Other	1,322	963
Total operations and administration	<u>49,535</u>	<u>47,432</u>
Total expenses	<u>857,811</u>	<u>812,500</u>

5. Revenues

The following are the revenues recognized for the year:

	<u>2007</u>	<u>2006</u>
	(in thousands of dollars)	
Donations for health research	9,362	9,499
Cost sharing agreements with other Government departments	1,240	1,198
Gain on disposal of capital assets	4	-
Endowments for health research	1	2
Other	<u>-</u>	<u>1</u>
Total revenues	<u>10,607</u>	<u>10,700</u>

6. Tangible capital assets

(in thousands of dollars)

Capital asset class	Cost				Accumulated amortization				2007 Net Book Value	2006 Net Book Value
	Opening balance	Acquisitions	Transfers, disposals and write-offs	Closing balance	Opening balance	Amortization	Transfers, disposals and write-offs	Closing balance		
Informatics hardware	1,817	111	-	1,928	1,270	276	-	1,546	382	547
Informatics software	6,574	1,206	-	7,780	3,347	1,184	-	4,531	3,249	3,227
Office equipment	345	-	-	345	89	34	-	123	222	256
Vehicles	23	32	-23	32	18	4	-18	4	28	5
Work-in-progress	14	9	-	23	-	-	-	-	23	14
Total	8,773	1,358	-23	10,108	4,724	1,498	-18	6,204	3,904	4,049

Amortization expense (in thousands) for the year ended March 31, 2007 is \$1,498 (2006 - \$1,376).

7. Deferred Revenue

Monies received as donations from various organizations and individuals for health research as well as interest on endowments are recorded as deferred revenue until such time that they are disbursed in accordance with agreements between the contributor and CIHR or in accordance with the terms of the endowments.

The transactions relating to these accounts are as follows:

	2007	2006
	(in thousands of dollars)	
Donations for health research		
Balance, beginning of the year	14,344	9,097
Add:		
Donations received	7,191	14,449
Interest earned	553	297
Less:		
Grants expensed	9,362	9,499
Balance, end of the year	12,726	14,344
Interest on endowments for health research		
Balance, beginning of the year	2	2
Add:		
Interest earned	3	2
Less:		
Miscellaneous expenses	1	2
Balance, end of the year	4	2
Total deferred revenue	12,730	14,346

8. Employee Benefits

Employees of CIHR are entitled to specific benefits on or after termination or retirement, as provided for under various collective agreements or conditions of employment.

- (a) **Pension benefits:** CIHR's employees participate in the Public Service Pension Plan, which is sponsored and administered by the Government of Canada. Pension benefits accrue up to a maximum period of 35 years at a rate of 2 percent per year of pensionable service, multiplied by the average of the best five consecutive years of earnings. The benefits are integrated with the Canada/Quebec Pension Plans benefits and they are indexed to inflation. Both the employees and CIHR contribute to the cost of the Plan. CIHR's responsibility with regard to the Plan is limited to its contributions. Actuarial surpluses or deficiencies are recognized in the financial statements of the Government of Canada, as the Plan's sponsor.

The 2006-07 expense represents approximately 2.3 times (2.6 in 2005-06) the contributions by employees.

CIHR's and employees' contributions to the Public Service Pension Plan for the year were as follows:

	2007	2006
	(in thousands of dollars)	
CIHR's contributions	3,139	3,121
Employees' contributions	1,378	1,203

- (b) **Severance benefits:** CIHR provides severance benefits to its employees based on eligibility, years of service and final salary. These severance benefits are not pre-funded. Benefits will be paid from future appropriations. Information about the severance benefits, measured as at March 31, is as follows:

	2007	2006
	(in thousands of dollars)	
Accrued benefit obligation, beginning of year	4,633	3,826
Expense for the year	898	1,024
Benefits paid during the year	(283)	(217)
Accrued benefit obligation, end of year	5,248	4,633

9. Contingent Liabilities

A legal suit for employment equity was initiated by the Public Service Alliance of Canada against Her Majesty the Queen naming certain separate employer organizations of the Government of Canada, including the Canadian Institutes of Health Research (CIHR), as defendants. The amount of this claim, as it relates to CIHR, is estimated to be \$747,000. In management's opinion, the outcome of this litigation is not presently determinable and no estimated liability has been accrued or expense recorded in the financial statements.

10. Contractual Obligations

CIHR is committed to disburse grants and awards in future years subject to the appropriation of funds by Parliament. In addition, the nature of CIHR's operating activities result in some multi-year contracts whereby CIHR will be committed to make some future payments when the goods or services are rendered. Future year contractual obligations are as follows.

(in thousands of dollars)	2008	2009	2010	2011	2012 and thereafter	Total
Grants and Awards	730,371	520,055	324,947	192,438	94,468	1,862,279
Operating	1,989	167	75	-	-	2,231
Total	732,360	520,222	325,022	192,438	94,468	1,864,510

11. Related Party Transactions

CIHR is related in terms of common ownership to all Government of Canada departments, agencies, and Crown Corporations. CIHR enters into transactions with these entities in the normal course of business and on normal trade terms.

During the year, CIHR received services which were obtained without charge from other Government departments as presented in part (a):

(a) Services provided without charge

	2007	2006
	(in thousands of dollars)	
Accommodation provided by Public Works and Government Services Canada	3,314	2,865
Employer's contribution to the health and dental insurance plans provided by Treasury Board Secretariat	1,772	1,864
Audit services provided by the Office of the Auditor General of Canada	138	76
Total services provided without charge by other Government departments	5,224	4,805

(b) Administration of programs on behalf of other government departments

CIHR administers funds received from other federal departments and agencies to issue grants, awards and related payments on their behalf. During the year, CIHR administered \$1,239,838 (\$1,198,175 in 2006) in funds for grants and awards. These amounts are reflected in CIHR's Statement of Operations as both revenues and expenses.

(c) Administration of CIHR funds by other government departments

Other federal departments and agencies administer funds on behalf of CIHR to issue grants, awards and related payments. During the year, other federal departments and agencies administered \$87,331,623 (\$76,965,301 in 2006) in funds for grants and awards. These amounts are reflected in CIHR's Statement of Operations as expenses.

12. Financial Instruments

The fair values of financial assets and liabilities approximate the carrying amounts of these instruments due to the short period to maturity.

Table 9: Details on Transfer Payment Programs (TPPs)

The following Transfer Payment Programs tables have been completed and are available at http://www.tbs-sct.gc.ca/rma/dpr3/06-07/index_e.asp:

- Grants for Research Projects and Personnel Support
- Institute Support Grants
- Canada Graduate Scholarships

SECTION IV: OTHER ITEMS OF INTEREST

Year 5 - International Review Panel Report, 2000-2005

June 2006

Executive Summary¹⁹

Canada has embarked on a bold journey to change its approach to the funding of health research and ultimately to influence its breadth, its quality and its impact on the health of Canadians and the delivery of health care. The creation of the Canadian Institutes of Health Research (CIHR) six years ago was an experiment to establish whether a single agency for health research funding and leadership in Canada could sustain the excellence in Canadian basic and clinical biomedical research but also expand more effectively into areas such as population-based research, health policy research, health services research and research using social sciences and humanities to address important health issues. A successful outcome would be indicated by an expanded capacity and increased output in research reaching into previously undeveloped areas, improved interactions between disciplines undertaking health research, effective knowledge transfer and, most importantly, a retention of excellence in all areas of health research.

The International Review Panel (IRP) was impressed by the progress made in developing a more unified model of health research funding. The capacity to fund research across all health related disciplines has clearly been enhanced and new strategic initiatives have strengthened multidisciplinary research and training. Together, these changes have all occurred in a remarkably short timeframe, evidence of the commitment and success of the management team. The IRP feels now that CIHR should take stock and ensure that it has the necessary governance and management structures in place to further progress its mandate and vision.

A key component of the CIHR vision was a set of virtual Institutes, funded modestly but with responsibility for providing leadership and focus to a range of subjects at a national level. The selection of these Institutes and their leadership has been an important part of the first five years of CIHR development and was a major focus of our review. Also important, however, are the panels responsible for allocating much of the response mode research funding. We have therefore also attempted to consider the current state of the panel system in CIHR.

Our impressions of the CIHR at this moment of its evolution are intended to provide insights into its structure and function that will allow the successful development of this novel vision. The challenges in achieving objective evaluation of the outputs of the CIHR so early in its expansion and transition has led us to make comments on some of the key components of a successful organization, particularly sound governance and management. The success of the CIHR in rapidly implementing many aspects of the new mandate over the last five years has led to a much larger and more diverse organization. The speed at which this transformation has occurred is remarkable and clearly has required extraordinary effort and energy. The CIHR is in our view now at an important inflexion point in its development. New structures need now to be imbedded, transparency in decision making and process is crucial and sound governance becomes increasingly important. We believe that this represents a natural progression in the growth of this new entity but nevertheless a crucial one for the long-term viability of the organization.

We have intentionally avoided interventions around the detailed operational management of the CIHR. We do not believe it is our role to judge the balance of funding priorities, the distribution or the appropriate size of the CIHR budget. The comments we make provide some reassurance that the CIHR model is one well worth pursuing but that crucial aspects of its structure and governance need now to be reconsidered in light of its recent growth and expansion. If addressed, these suggestions will ensure that internal structures in CIHR are accountable and that CIHR remains responsive to the key stakeholders, including the policy-makers and scientific community.

¹⁹ The final full report of the panel was published in June 2006 and is available at <http://www.cihr-irsc.gc.ca/e/31680.html>. The major findings of the review as well as CIHR's response are referred to in various sections of this report.

Our review has resulted in the following observations:

- The CIHR is clearly in a state of rapid evolution and has already transformed the face of health research in Canada. Evidence of the benefits of a more strategic approach to health research is apparent and multidisciplinary activity is widespread. Canada is beginning to enter into health research activities that have been previously inadequately resourced and underdeveloped.
- The CIHR has clearly made progress in delivering leadership in the Canadian research community fostering collaborations, creating an environment for capacity building, forging an integrated health agenda, creating multidisciplinary Health Research Institutes, developing Knowledge Transfer and a sound ethical environment for research.
- It is too early to make conclusive judgments as to the effectiveness of this model of health research funding based on currently available objective outputs.
- All 13 Institutes appear to be functioning well, providing leadership in their fields and providing a focus for strategic activities. The Scientific Directors are all clearly contributing significantly to the success of the Institutes which are now fulfilling a crucial function in the health research community in Canada.
- Rapid growth, particularly of new strategic initiatives and panels, has led to excessive complexity. This complexity needs now to be reduced to enable opportunities and activities to be both focused and manageable.
- The panel system that is responsible for handling most of the research funding is currently under strain. It requires more academic leadership, and a review of process and structure for this system is necessary.
- A major outstanding challenge for the CIHR and health research in Canada is the apparent lack of coordination at the federal and provincial levels of the many different types and sources for funding for different aspects of health research. Support for infrastructure and research posts are welcome but must be aligned with the operating grants that are necessary to keep the research enterprise running.
- Governance will be crucial in the next phase of CIHR evolution. Accountability and transparency need to be reinforced at all levels of the organization. Governing Council should consider its position as a main board of the organization and the executive team needs expanding and strengthening. A single research committee should be established to account for all research expenditure in the CIHR, and to agree on the balance of strategic and response mode funding in each research area.
- To formally provide scientific leadership across their disciplines, Scientific Directors should now be given oversight of their Institutes and their associated panels. Each should be responsible for ensuring the balance of strategic and response mode funding is appropriate and that the panel system functions more efficiently. It is likely that Scientific Directors (SDs) would participate in a central research committee.
- Rapid growth and the challenges associated with matrix management across the Institutes and Ottawa have created management challenges within the CIHR. The most appropriate structure for handling these issues should be considered after an organizational review.
- Knowledge Transfer (KT) has been accepted as an important part of the CIHR mandate. Progress has already been made in some areas of knowledge translation particularly in infectious disease, public health and some areas of health services research. There remains lack of clarity about the definition of KT across the organization. More attention should be directed at providing leadership in the area of technology commercialization.
- CIHR should increase its emphasis on research in ethics as well as its governance responsibilities to ensure that the research it funds meets the highest ethical standards. Leadership in this area across Canada could come from the CIHR.
- It is important to determine and to collect the objective data for each research activity that needs to be collected to allow an effective review of CIHR activities in the future. In particular, terminal reports from all grant holders would be an essential part of this process. This will be crucial if the next review committee is to provide a judgment on the success of the CIHR model.
- Communication remains an important and challenging activity for the CIHR. The range of potential audiences, including funding partners, provincial and federal governments, universities, health

researchers, international agencies and the citizens of Canada, make this particularly challenging. CIHR management needs to consider creative approaches to the utilization of a wide range of communication sources and resources including effective use of electronic and web-based dissemination, and should continue to improve its communication with key stakeholders.

